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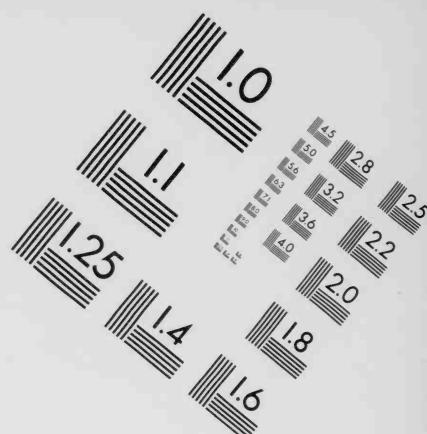
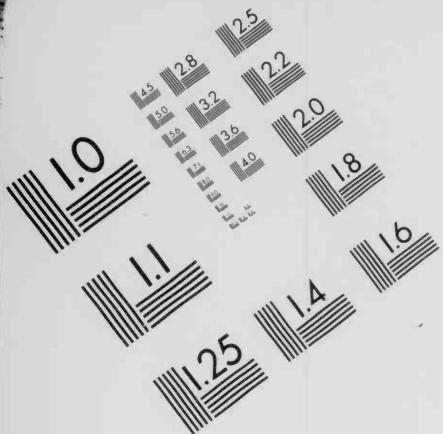


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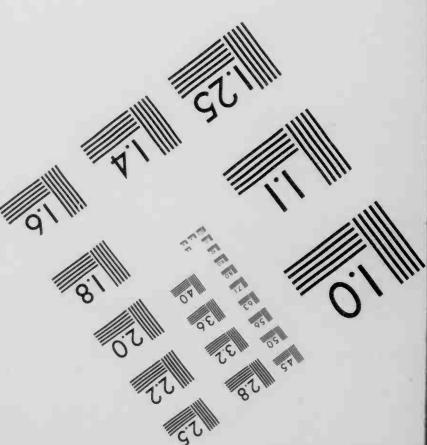
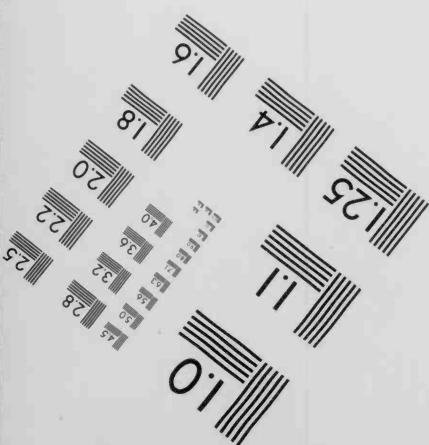
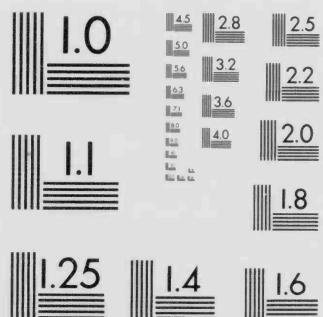
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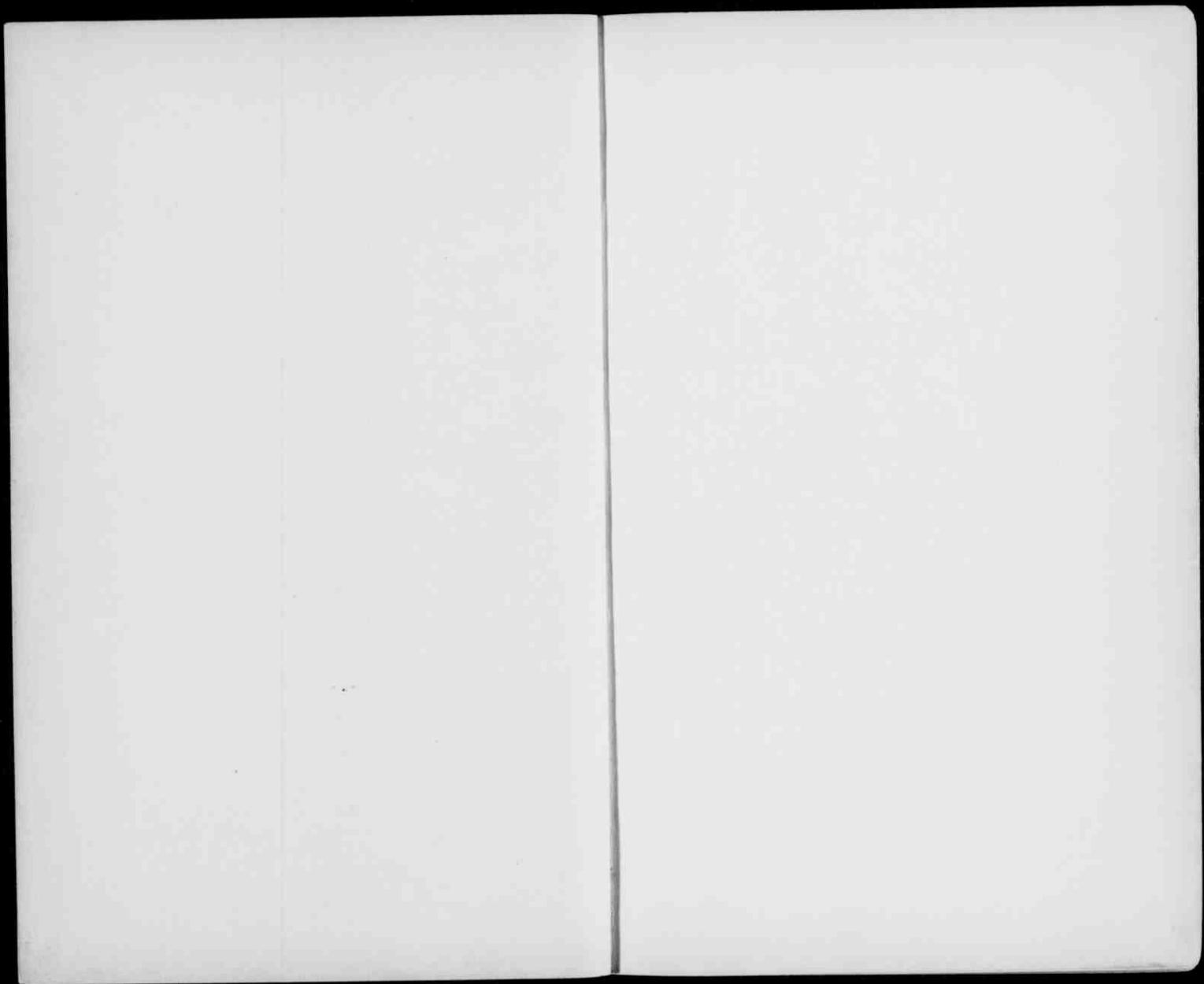


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THE DEVELOPMENT OF
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G. A. JOHNSTON, M.A., D.PHIL.

SOMETIMES LECTURER IN MORAL PHILOSOPHY IN THE UNIVERSITIES OF
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PREFACE

No apology would seem to be required for an attempt to examine the historical development of Berkeley's philosophy as a whole. In this book I have tried to throw light on the evolution of Berkeley's thought by a careful study of his works in their chronological sequence and by detailed reference to his relations with his predecessors and contemporaries. I have naturally devoted most attention to what is central in Berkeley's philosophy—his metaphysics and theory of knowledge,—but I have not neglected the other problems that were touched by his wide-roving mind.

Every student of Berkeley owes a debt of enduring gratitude to the careful and loving work of Campbell Fraser. In addition to his indispensable commentaries and memoirs, I have sought help from every source that seemed likely to afford it. In general, however, I have found Berkeley to be his own best interpreter.

PREFACE

This book contains the substance of the Shaw Fellowship Lectures which I had the privilege of delivering in the University of Edinburgh in 1920.

G. A. JOHNSTON.

GENEVA,
August, 1923.

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CHAPTER I

INTRODUCTORY: BERKELEY'S SIGNIFICANCE FOR PHILOSOPHY

THE early eighteenth century, with all its wealth of versatility, possessed no one who touched its life at more points than Berkeley. But though he was intimately connected with almost every department of the life and thought of his time, it is for his philosophy that he is, and deserves to be, chiefly remembered. His reputation does not, however, rest equally on every part of his philosophy. The three great philosophical problems with which the eighteenth century concerned itself were those of knowledge, morality and religion. Berkeley traversed the whole of this field of contemporary speculation, and to the study of all its problems he made worthy contributions; but his philosophical significance depends almost wholly upon his treatment of the problem of knowledge.

In spite of Berkeley's originality of thought and unconventionality of life he remains the entirely typical English philosopher. English philosophers in general, and its five greatest representatives in particular, display three well-marked characteristics. A survey of the work of Bacon, Hobbes, Locke,

Berkeley and Hume shows that (1) their interest in philosophy is predominantly practical, (2) their inquiries are prevailingly epistemological in character, and (3) the general method they adopt is psychological and inductive.¹ These three features are more or less characteristic of English philosophy as a whole. But they are specially prominent in Berkeley.

(1) Berkeley entirely agrees with Bacon that "knowledge is power," and that its end is "the improvement of man's estate." This does not, of course, mean that he minimises the importance of the theoretical interest. In his view, the conduct of the understanding does not yield in importance to the conduct of life; and, indeed, he has a great deal more to say about knowledge than about practice. But the value of knowledge does not end in itself; it is value for something, power to produce something. He never allows us to forget that all his writings are dominated by a double practical aim. "The new principle" will, in the first place, "abridge the labour of study," and render the natural sciences and mathematics more compendious and useful; and, in the second place, by making manifest the nearness and omnipresence of God, it will exercise a profound influence for good in the world. This twofold purpose animates every page of Berkeley's work; "the whole," he says, is "directed to practice."¹

But Berkeley's practical spirit went further than this. And here also he is typical of English philosophy. For it is characteristic of the philo-

¹ *Works*, i. 92. (All references are to the Oxford Edition of Berkeley's works in 4 vols. 1901.)

sophy of England, more than that of any other country, that its chief representatives have been not academic savants but men of affairs. Not to mention others, all the great men already named took a prominent and honourable place in the public life of their time. Now, though for many years Berkeley was connected with Trinity College, Dublin, his life was not that of a University teacher. Associating with the wits of a brilliant London, denouncing free-thinking in the *Guardian*, acting as chaplain to an embassy, exploring Sicily to discover the cause of its volcanoes, writing an *Essay towards preventing the ruin of Great Britain*, inspiring London, in an age when an enthusiast was considered either a knave or a fool, with the romantic missionary project of a college in Bermuda, sailing to America in a "hired ship of 250 tons," farming and preaching and waiting in Rhode Island for the fulfilment of Walpole's promise of Government assistance for his college, and in the evening of his days as Bishop of Cloyne caring for his people's souls, healing their bodies with tar-water, and castigating their idleness in the *Querist*—such, in some of the aspects of his varied life, was George Berkeley. Through all the vicissitudes of this eventful life his practical interests were supreme.

(2) Berkeley also agrees with the prevailing tendency of English thought in basing his philosophy directly on experience, and in attending specially to psychological and epistemological questions of the relation between the mind and the world of nature. With regard to the problem to be solved and the point of departure he is at one with Locke.

Both start with experience, and both follow "the new way of ideas." Along that way, however, Berkeley went a step further than Locke; and it is, in one respect, his chief historical significance that he formed a link in the chain of reasoning which terminated in Hume's scepticism. [Berkeley accepted Locke's doctrine that the object of thought is an idea, but, denying that this idea is a copy of an external thing, he maintains that, as we cannot know material reality either by way of ideas or by perception of its effects, so-called material substances and material causes are simply non-existent. Instead of material substance and material cause Berkeley posits spiritual substance and spiritual cause; and thus his universe consists of spirits, substantive and causal, and ideas, inert, unitary and dependent.] Hume has only a single step to take to reach his sceptical conclusion. The same arguments, he insists, can be advanced against Berkeley's spiritual substance and spiritual cause as Berkeley had brought against Locke's material substance and material cause: if spiritual substance be simply an indefinable "something," we have no more ground for maintaining its existence than Locke has for his material "something."

Now, from one standpoint, this is Berkeley's place in the history of English philosophy. But it is not a complete account of his philosophical significance. It is a great mistake to say, as Green does, that Berkeley is "merely Locke purged." For the most suggestive part of Berkeley's doctrine is not his criticism of Locke, but his positive theory of spirit. And that doctrine cannot really be overthrown by

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INTRODUCTORY

the same arguments as proved fatal to Locke's material substance, for Berkeley insists that we *can* know spirit—though we do not perceive it as an idea, we have a notion of it, and know it to be active. Now, his insistence on the reality of mind or spirit is of the first importance. Locke, indeed, had not denied the existence of mind, but he did not fully realise its indispensability for knowledge. And Berkeley was, in fact, the first modern philosopher to discover the importance of the thinking subject in knowledge. Whereas previous philosophy had, in general, been content to regard mind as dependent for its knowledge on the external world, Berkeley made a veritable Copernican change, and insisted that the so-called external world depends ~~for~~ ^{like} its existence on the mind. Thus mind or spirit becomes the most important thing in the world. [Reality is primarily spiritual, and the existence of the physical universe is mind-dependent.

But Berkeley was in advance of the process of thought, and it was left to Kant, after the depths of scepticism had been sounded by Hume, to reinstate the self in a more secure position than it occupied in Berkeley's system. For Berkeley had allowed two great lacunae to remain in his doctrine. He left side by side two kinds of knowledge, (1) knowledge of ideas, and (2) knowledge of spirits by way of notions; and until *Siris* he made no attempt to bring these two kinds of knowledge into any system. But in that work he points out the necessary interconnection of perceptions and conceptions; and, in terms that remind us of Kant, insists that as understanding alone cannot perceive, so sense alone

cannot know, for all real knowledge requires the concurrence of both ways of knowing. But this view was never worked out. The other great defect in his theory is his failure to give any account of relations. He does, indeed, once or twice mention relations as involving mental activity, but such suggestions do not amount to a serious attempt to deal with the problem. Berkeley explicitly holds that things can be known apart from their relations, and, though he insists on the uniformity of experience and the systematic and harmonious nature of the world, he maintains that no necessary connection subsists between the particulars which constitute the physical order.

To psychology Berkeley made contributions which were of the first importance for the development of that science. Mill, in a burst of generous enthusiasm, attributes to him "three first rate philosophical discoveries, each sufficient to have constituted a revolution in psychology, and which by their combination have determined the whole course of subsequent philosophical speculation; discoveries, too, which were not, like the achievements of many other distinguished thinkers, merely refutations of error, but were this and much more also; being all of them entitled to a permanent place among positive truths."¹ The three doctrines on which Mill bestows such praise are the theory of visual perception, the contention that we reason always on a particular, and the theory that reality consists of groups of sensations. How far these doctrines have the right to be called "positive truths" we shall see

¹ *Dissertations and Discussions*, iv. 155.

later; but there can at least be no doubt of the importance of their influence on the development of psychology. If we trace the growth of psychology, we shall find, as Ward has pointed out,¹ that it was first unduly objective and then improperly subjective. A mature psychology will hold in due balance both the objective and subjective aspects; its fundamental conception will be experience, in which subject and object are correlated. Now, while Berkeley properly belongs to the second period, he has done much to pave the way towards an adequate psychology of experience.² Aristotle, whom Ward takes as the representative of the first period, developed his psychology from a standpoint resembling that of the modern biologist, and it was characteristic of his work to contemplate psychical facts from without, rather than introspectively from within. Advancing on these lines, Aristotle was unable to give any adequate account of the unity of consciousness as the central feature of all psychical acts. In Descartes and Locke psychology assumed a more subjective tinge. They did not, however, remain true to the introspective method which they professed. They introduced metaphysical distinctions, and vitiated their psychology by a dualism of mind and matter. Now, Berkeley denied the existence of that dualism, and, by his insistence on the importance of the subject within experience, anticipated the day when psychology would strike the proper balance between the subjective and objective elements within the unity of experience as a whole.³ To adapt a Kantian dis-

¹ "On the Definition of Psychology," *Br. Jl. Psych.* i. 4.

tinction, while Descartes' subject in knowledge performs only regulative functions, Berkeley's subject is constitutive of experience. Berkeley's significance really lies in his suggestion that both external and internal fall within the subject's individual experience. But the importance of this suggestion (for it is nothing more than a suggestion) was overlooked by Berkeley's successors ; and it has remained for Ward and others in our own day to re-learn and re-teach the lesson.

(3) Berkeley did not distinguish between philosophy and psychology. He believed that the only method of dealing with the facts of experience is what we should now call the psychological. And here also his procedure is typical of English philosophy in general. It is characteristic of English thought to assume that philosophy consists mainly in an analytical examination of mental processes.¹ We may say either that English philosophy confuses psychology and philosophy, or, if we prefer, that its philosophical method is exclusively psychological. English philosophy attempts to satisfy the wonder in which philosophy arises by analysing conscious experience into its constituent elements. It seeks to apply to conscious experience (what it calls "inner experience") the same methods of observation and experiment, examination and analysis, division and classification, as have proved useful in the natural sciences, the sciences of "outer experience." This treatment of experience gives us, on the one hand, the body of natural science, and on the other, mental science or philosophy. The

¹ This refers, of course, to the *traditional* English method.

psychological method in philosophy involves an examination of the contents of the mind, regarded as particular facts ; and on the results of its observation it constructs a system of generalised propositions which form the body of philosophy.

This method Berkeley inherited from Locke, and in his earlier work it and it alone is employed. In the *New Theory of Vision* and *Principles* the only method which he uses is introspection upon conscious experience. The person who introspects is regarded as somehow standing apart from his experience : his experience is for him a series of isolated presentations, representative of nothing outside themselves, and having no essential relation to other presentations.

But Berkeley soon came to doubt the validity and universal applicability of the traditional psychological method. One or two entries in the *Commonplace Book* show that even in those early days he had a presentiment of the inadequacy of the method, and the impossibility of explaining by it the mind and its operations. The complete analysis of conscious experience which the method professes to supply leaves out of account the self for which that experience is. Introspection discovers only series of particular ideas : it reveals no permanent and identical self. Now Berkeley believed that the existence of the self is essential to the constitution of experience, and the psychological method is therefore inadequate in so far as it is unable to give any account of the self.

In his later work he gradually recognised the deficiencies of the standpoint and method with which

why "permanent & identical" —
neither the subject matter of experience
nor the permanent unchanging
a contradiction to

he started. Any knowledge we get by this method must be supplemented and corrected with reference to a new way of knowing, viz. knowledge by way of notions. We have notions of the self, of relations, and of mental operations, none of which are revealed to us by a psychological analysis, and to none of which have we any right if we proceed solely by the psychological method. In Berkeley's middle period knowledge of ideas and knowledge of notions were allowed to remain side by side as two isolated and distinct kinds of cognition, each fitted for obtaining awareness of its appropriate objects, and no attempt was made to show the relation of these kinds of knowledge. But in the latest stage of his philosophical development he realised, as we have already mentioned, that we cannot have in isolation knowledge of particulars and knowledge of universals, and that all knowledge requires the concurrence of both the universal and the particular. Sensation gives merely the raw material of knowledge, which needs to be understood and interpreted before becoming knowledge; and the understanding by itself is empty and can give no knowledge apart from the filling of sense. All this, of course, proves the inadequacy of the psychological method. But though Berkeley certainly did see that it is inadequate, he does not seem to have understood precisely why it is inadequate. It is unsatisfactory as a philosophical method because it takes very little account of a group of problems which it is one of the principal tasks of philosophy to examine, the problem of the relation of the self to its experience, the problem of the relation of inner experience to

outer experience, and the problem of the relation of the finite self to the Infinite. All these problems are touched by Berkeley, but in no case did he face thoroughly the difficulties which they involve. And his philosophical weakness may be said to be due, in a word, to his failure to work out the implications of personality. The world is, for him, dependent for its character and existence on persons; yet he deliberately avoids any fundamental discussion of the meaning of personality.

The "psychological" or "genetic" method = or
 Empiricist + (Psychology, Logic)
 Idealistic = Problem of relationship + and
 "common" subject-matter = denied by Hume

] not with
critical and
logical point -
this is the
middle of
the 18th century
thought.

CHAPTER II

THE ORIGINS OF BERKELEY'S THOUGHT

I. PHILOSOPHICAL AND RELIGIOUS ENVIRONMENT

IT is the merest commonplace to say that every thinker owes much to his predecessors and contemporaries. His thought is consciously influenced by philosophers, scientists and moralists; and, in addition, it bears upon it the stamp of that subtler but none the less potent force, the social environment in which he lives. Berkeley is perhaps the freshest and most original thinker in the history of British philosophy; yet, more than any other, he was influenced both by his immediate philosophical predecessors and by the social surroundings in which he was placed. He was aware of his debt, though not, perhaps, of the full extent of it. "I must acknowledge myself beholding to the philosophers who have gone before me,"¹ he reminds himself in the *Commonplace Book*; but at the same time he compares these predecessors to adventurers, "who, tho' they attained not the desired port, they by their wrecks have made known the rocks and sands, whereby the passage of aftercomers is made more

¹ *Commonplace Book*, i. 38.

secure and easy."¹ But Berkeley's indebtedness was not merely of this negative kind. He did not use other philosophers merely as beacons to enable him to keep clear of the errors on which their thought had been wrecked. This metaphor is entirely inadequate. In reality, other philosophers formed his spiritual meat and drink, and it was because he assimilated so well the nourishment they provided that he was able to reach the philosophical stature to which he actually grew.

In Berkeley's case it is possible, with greater certainty than is usual, to discover the material which his receptive mind acquired from his predecessors and contemporaries, and, in general, to trace the outlines of the main formative influences which played upon his mind. When his first book appeared, he was still very young. He was only twenty-four when the *New Theory of Vision* was published, and the *Principles* was given to the world in the following year. In these works he makes no effort to conceal the sources from which the New Principle was derived. One of his great aims, he tells us, is to "remove the mist or veil of words" by which philosophy is obscured, and he has no wish to hide the origins of his own thought or mask the workings of his own mind. His own consciousness of his relations of attraction and repulsion to other philosophers renders the determination by us of the extent and nature of those relations, if not an easy task, at least a practicable one. A Locke, a Kant, or a Hobbes, who does not produce his work till near the evening of his days, finds it impossible to say

¹ *Ibid*, i. 38.

which among the myriad influences to which he has been exposed have really been vital in the formation of his mind. And it is often equally impossible for the historian to disentangle the various threads which have been woven so closely into the texture of the particular philosophy. But Berkeley's enduring philosophical work was nearly all done when he was a very young man, and while the impressions of his student-days were still fresh and vivid. It is thus possible for us to trace, from his own writings, the influence of his social and philosophical environment on the development of his thought.

What we have to do, then, is to study the evolution of Berkeley's philosophy, and, as no study of evolution is complete without some investigation of environment, it is necessary to sketch in outline the nature of the environment of mental and moral forces with which Berkeley was surrounded during his student-days at Trinity College, Dublin.

In his College days or earlier Berkeley encountered the two great influences which affected the whole course of his life and work. The one aim which he kept persistently before him through all the vicissitudes of a varied life was the refutation of deists and free-thinkers. Now, in the formation of this purpose and in the preparation for carrying it out, he was affected by two main influences or sets of influences, one religious, the other philosophical. He was influenced not only by the new experimental philosophy of mind and nature introduced by Newton and Locke, but also by the great religious controversy, which lasted over half-a-century, between orthodoxy and deism.

When Berkeley went to Dublin, the great deist controversy, in which he was destined to play a not unimportant part, was just beginning. In 1696 the flame was fairly lit by John Toland with his anonymous book, *Christianity not Mysterious*. The publication immediately became notorious, and a second edition bearing Toland's name was issued in the same year. In the spring of 1697 Toland went to Ireland, his native country, and discovered that intense excitement had already been caused by his book. He did everything to encourage it. In tavern and coffee-house he never wearied of airing his views and repeating his main arguments. His skill in debate won many to his side, and Authority considered it necessary to institute a vigorous campaign against him.¹ Everything possible was done to crush his views. State, Church, and University were all arrayed against him. Dr. Peter Browne,² at that time Provost of Trinity, published a violent attack on his views,³ in which he endeavoured to excite a popular outcry against him.⁴ The Church was not behind in lending its voice to the general condemnation, and from every pulpit, by Archbishop and curate, Toland and his views were denounced.⁵ The affair was even taken up by the

¹ Cf. Lechler : *Geschichte des Englischen Deismus*, p. 195.

² Peter Browne, with whom Berkeley subsequently had a controversy, was the author of *The Procedure and Limits of Human Understanding*, and *The Divine Analogy*.

³ *A Letter in Answer to a Book Entitled Christianity Not Mysterious*, 1697.

⁴ Molyneux, the friend of Locke, criticised Browne on this score. (Locke's *Works*, viii. 428.)

⁵ "A sermon against his errors was as much expected as if it had been prescribed in the rubric ; and an Irish peer gave it as

Irish Parliament, a special commission was appointed to deal with it, and eventually a resolution was passed by the whole House declaring the book to be antagonistic to the Christian religion and the Established Church, and decreeing that it should be publicly burnt by the common hangman, and the author arrested by the Serjeant at Arms. Toland fled. But the controversy which he had popularised was not so easily got rid of, and when Berkeley entered Trinity College in 1700 free-thinking was still a subject of the keenest debate. From the beginning Berkeley took the greatest interest in the controversy, and definitely ranged himself on the side of the orthodox.¹

Berkeley's Dublin environment was also responsible for leading him in the direction in which the work was to be done that would secure for him a permanent reputation. If his work had consisted simply in the refutation of the deists, he would now be as much ignored as they are. His reputation rests on his philosophy pure and simple, and the general character of his philosophy was determined by his early studies at Trinity College. The College in which he lived had changed greatly since Swift's student-days. Swift took his degree in 1685, after wrestling contemptuously with the "Logics" of Burgersdicius, Keckermannus and Smiglecius and the "Manuals" of Baronius and Scheiblerus. But

a reason why he had ceased to attend church that once he heard something there about his saviour Jesus Christ, but now all the discourse was about one John Toland." (Hunt, *Religious Thought in England*, ii. 244.)

¹ For a detailed account of Berkeley's attitude to the deists *vide infra*, chapter vii.

by Berkeley's time these tomes had been discarded from the curriculum, and very little attention was paid to the subtleties of the Schools. Trinity College had given a welcome to Locke's *Essay*, published in 1690, and Newton's *Principia*, published in 1687; and all interest was now concentrated on the new philosophy initiated by them. Thus, when Berkeley became a student in 1700, Locke and Newton were the great intellectual forces in his environment. Berkeley became greatly interested in both thinkers, and in 1706 he was the leading member of a society which met weekly for the discussion of their views.

This society, which was founded on January 10, 1705/6, consisted originally of eight persons only; and there is some reason to suppose that Berkeley was president and Samuel Molyneux (son of Locke's friend) secretary.¹ Though the statutes of this

¹ The reasons for this conjecture are as follows. Berkeley, we know, was far ahead of his fellow-students (*Life and Letters of Berkeley*, p. 23), and it is therefore *a priori* natural to suppose that he was the first president of the society. Further, the statutes, which deal mainly with elaborate rules of procedure, are written out in full in his book, but not in his handwriting. They are written, no doubt by the secretary, in the president's book for his guidance in directing the discussions. Again, the date of the foundation of the society is January 10, 1705/6, and there is in existence a manuscript of Berkeley's—the *Description of the Cave of Dunmore*—bearing the same date, which was almost certainly read by Berkeley at the first meeting of the society. (See *Hermathena*, vol. xi. p. 181.) And it seems probable that the inaugural paper would be read by the president.

That Samuel Molyneux was secretary is suggested by the fact that the manuscript just referred to and the manuscript of Berkeley's essay *Of Infinites* (which was apparently read to the same society) were discovered among the Molyneux papers in the library of Trinity College, Dublin, and both bear an endorsement in the writing of Samuel Molyneux (*Hermathena*, xi. 181).

society, which are preserved in Berkeley's *Commonplace Book*, are rather elaborate, yet, oddly enough the object of the society is not stated. It was clearly to be very comprehensive, members being entitled to "propose to the assembly their inventions, new thoughts, or observations in any of the sciences."¹ The constitution provides for a museum, with one of the members as "Keeper of the Rarities"; and it is clear from some entries which immediately follow the statutes in Berkeley's *Commonplace Book* that Locke was the subject of much discussion. Directly after these entries follows another list of statutes, a short one this time, which is dated December 7, 1706. These statutes may refer to a new society, but it is more probable that they merely correct or amplify the constitution of the original society. The object of the society is now defined. It is "to discourse on some part of the new philosophy."²

In this society, accordingly, Berkeley discussed with his friends the New Philosophy of Locke and Newton; and in connection with these discussions, he wrote his *Commonplace Book*.

II. THE COMMONPLACE BOOK

The *Commonplace Book* is in itself of unique philosophical interest, and is, in addition, of the utmost value for the light it throws on the genesis, evolution,

Now it was one of the statutes of the society "that the secretary have the charge of all papers belonging to the society." (*Life and Letters*, p. 24.)

¹ *Life and Letters of Berkeley*, p. 25.

² *Ibid.* p. 26.

and affiliation of Berkeley's thought. Begun early in 1706, the book contains a full and suggestive series of notes of what he was reading and thinking and planning during the earliest years of his philosophical development. In its vivid, disjointed, and staccato jottings it reveals a mind pregnant with a great discovery. More important still, it displays the sources from which that great discovery was nourished prior to being brought forth in the *New Theory of Vision* and *Principles*, and enables us to discern the emotions which, in Berkeley's mind, accompanied the birth of the New Principle. The notebook was intended for the eye of its writer alone, and it contains the freest possible expression of his attitude towards the philosophers and mathematicians from whom he was still learning. Its casual and unstudied utterances throw a brilliant light on the origin and progress of his thought.

The earliest philosophical remarks in the book are the queries interposed between the statutes of January 1705/6 and December 1706. These have reference, without exception, to particular points of Locke's doctrine. Several isolated questions refer to matters which Berkeley was later to raise, though they have little connection with the fundamentals of his own theory; but more interesting than these are the important queries which indicate that already Berkeley's mind was tending in the direction of the New Principle. Suggestive, for instance, is the very first entry, "Query. Whether number be in the objects without the mind? Locke, b. 2, c. 8, s. 9."¹ Berkeley's conviction of the mind-dependent

¹ *Life and Letters of Berkeley*, p. 25.

reality of the world was already dawning ; and that he was thus early inclining to the emphasis on sense which is so marked a feature of his earlier thought is evident from the tentative and awkwardly expressed statement, "Things belonging to reflection are for the most part expressed by forms borrowed from things sensible."¹ But such suggestions as these are merely prolegomena to the New Principle : the New Principle itself has not yet been revealed to Berkeley's ardent mind.

The revelation takes place in the most striking way in the next group of entries. As we read the phrases they contain, it needs no effort of imagination to reconstruct the stages of the development of the New Idea. No harsh Socratic maieutic was needed to bring it to the birth ; it came to light easily and almost imperceptibly, and as we scan the sentences in which Berkeley indicated the process, it is easy to sympathise with his joy and surprise as he gazes at the child of his mind—"The obvious tho' amazing truth."

The whole process of evolution takes place in a single page, and that the first page of the *Commonplace Book* proper.² Berkeley is considering the problem of time and eternity, and after one or two

¹ *Ibid.* p. 26.

² My account of the development of Berkeley's early thought as revealed in the *Commonplace Book* is based on the supposition that the order in which Berkeley actually made the entries is not that which is adopted by Campbell Fraser in the Oxford edition, but is as follows.

I. The Statutes of January 1705/6, the queries, and the Statutes of December 1706. (Though these are all in the manuscript of the "Commonplace Book," they are not printed by Fraser in the *Commonplace Book*, but

remarks of no particular importance, he makes the significant statement, "Time is the train of ideas succeeding each other."¹ Next he says, "Duration is distinguished from existence." Time, he means,

are inserted by him in his *Life and Letters of Berkeley*, pp. 23-27.)

II. *Commonplace Book*, pp. 58-89.

III. *Commonplace Book*, pp. 7-58.

IV. *Commonplace Book*, pp. 89-92. (These references are to the "Commonplace Book" as printed by Fraser in the 1901 edition of the *Works*.)

It is necessary now to give reasons for adopting this order. The essential question relates to the order of the two sections numbered above II. and III. And it may at the outset be pointed out that section I. coheres closely with section II., and is to be regarded as prefatory to it. Section I., which was extracted from its proper place in the "Commonplace Book" by Campbell Fraser for biographical purposes when he published the 1871 edition of the *Works*, and was apparently overlooked altogether when he brought out the edition of 1901, stands written in the manuscript volume which we call the "Commonplace Book" between the quotation from Clov (?) and the sentence "One eternity greater than another of the same kind." The quotation from Clov (?) ends one page. Then follow three blank pages. Then we have the statutes of January 1705/6, and the other items which constitute what I have called section I. The sentence "One eternity greater than another of the same kind" runs on immediately after the last of the statutes of December 1706. It is clear, then, that the statutes and queries are connected with section II., and are disconnected from section III., from which they are separated by the three blank pages. That is, section I. is connected with II., but not with III. It is, as we have said, prefatory to II.

Having now made clear the close connection of I. with II. (which nobody doubts), we proceed to the crux of the question, viz. the transposition of sections II. and III.

The order in which the *Commonplace Book* is printed by Campbell Fraser is that of the manuscript volume. The only alterations which Fraser made in editing the manuscript were (a) the excision of section I. (to which we have already alluded), (b) the omission of a few repetitions, and (c) the addition on p. 92 of a few remarks taken from another manuscript of Berkeley. Apart from these intentional interferences with the text of the manu-

¹ *Commonplace Book*, i. 58.

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script, and some errors in deciphering Berkeley's handwriting in the *Commonplace Book* printed by Campbell Fraser is identical with the manuscript volume.

Now, as Lorenz was the first to point out (*Archiv für Geschicht der Philosophie*, xviii. 554), the manuscript volume consists of two notebooks, bound together. Evidence of the former binding remains, and there is a slight difference in the texture and quality of the paper. One notebook comprises pp. 7-58 down to and including the quotation from Clow (?), i.e. what we have called section III. For convenience we will call this notebook A. The other contains the statutes and queries followed by pp. 58-92, i.e. what we have called sections I, II. and IV. Let us call this notebook B.

It was suggested by Lorenz that these notebooks had accidentally been bound together *in the wrong order*. This supposition I have adopted. To substantiate it, it is necessary to show that notebook A must be later than notebook B.

(1) A contains the date August 28th, 1708. B contains the dates January 10, 1705/6, and December 7, 1706. There is no doubt as to these dates, consequently A must be later than B. This is absolutely conclusive. (There is an entry on p. 84 which might be taken to suggest that it had been written before April 16, 1705. It refers to "Mr. Newton," and as Newton was knighted on April 16, 1705, the entry, Fraser suggests, would seem to indicate that it was written before that date. This is not, of course, conclusive. It is quite possible that Berkeley simply wrote "Mr. Newton" inadvertently. If Fraser's supposition be true, it still further confirms our contention that B is earlier than A, though it gives rise to difficulties of its own in connection with the statutes, which would then, though preceding the Newton entry in the manuscript, be subsequent to it in time. And this, I think, is a further objection to Fraser's suggestion.)

(2) That B was written as early as 1706, and therefore before A, is confirmed by the discovery made by Prof. S. P. Johnston of an essay by Berkeley entitled "Of Infinites." On external and internal evidence Prof. Johnston assigns this essay to the period 1706-7 (*Hermathena*, vol. xi. pp. 181-2), and a comparison of it with the *Commonplace Book* shows that it was certainly written at the same time as pp. 83-88.

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(4) But by far the most convincing confirmatory evidence of the priority of B is that supplied by a consideration of the subjects dealt with in the two parts. There are, for instance, two or three fairly certain references from A to B. On p. 12 we have the following: "Motion on 2nd thoughts seems to be a simple idea." Now, motion has not been mentioned previous to this in A. In B, on the other hand, motion is mentioned in such a way as to imply that it is a complex idea. That is, we have Berkeley's first thought in B, and his second thought in A. Again, in B we frequently find dogmatic and unguarded statements which are carefully qualified in A. For instance, he states in B, absolutely and without qualification, that in perception the mind is essentially passive (p. 83). But in A he qualifies this by adding, "There is somewhat active in most perceptions" (p. 37). Lastly (and this seems to be an irrefragable example), in B he defines "bodies" as "combinations of powers," obviously a technical definition of his own (p. 64). But in A he reminds himself "not to mention the combinations of powers" (p. 50). Now, the phrase "combinations of powers" has not previously been mentioned in A. The reference is clearly to the passage in B.

(5) Finally, if we take the *Commonplace Book* printed in the Oxford edition, it is impossible to trace any development in Berkeley's thought. On the very first page of A, in the second entry, we have a reference in detail to the structure of the Introduction to the *Principles*, and Berkeley speaks in a most familiar way of the application of the Principle to various difficulties. The first few pages of A show, in fact, that he had already reached the stage of drafting the *Principles*, and was even paying attention to the phrasing of important passages. In A the references are all to the *Principles*. On the other hand, B contains almost the whole of the argument of the *New Theory of Vision*, which was certainly developed before the *Principles*. And the general style and atmosphere of A are more mature than B. Most important of all, on the supposition that B precedes A in time, it is possible to discern a real continuity of argument and progress of thought. This is shown in the brief exposition of the argument of the *Commonplace Book* which I have given in the text, and need

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would seem to follow that the measure of time, and consequently the measure of existence, differs from individual to individual, and in the same individual from moment to moment. This consequence is, in part, admitted by Berkeley. "The same $\tau\circ\nu\nu$," he says, "not common to all intelligences." There is no objective or universal measure of time, and the conclusion must be drawn, "Time a sensation ;

not be repeated here. The reality of this continuity grows on the mind the more frequently one reads the *Commonplace Book*; and no one who reads it over several times, first in one order and then in the other, can avoid the conclusion that Berkeley wrote B before A.

For all these reasons, then, we maintain that the order in which Berkeley actually made his jottings is that which we have adopted. The essential question, let us repeat, concerns our transposition of sections II. and III., and this we have proved to be justified.

A word or two will suffice for the unimportant question why pages 89-92 are postponed to notebook A, though they really occur at the end of B. In the manuscript there is a hiatus where on p. 89 in the Oxford edition a line is drawn. That is, the portion of p. 89 after the line does not follow on uninterruptedly the part of p. 89 before the line. We thus have this initial reason for separating p. 89 ff. from the rest of B. Now, pp. 89-92 consist of (a) nineteen carefully stated and numbered axiomatic statements of the salient points of Berkeley's New Principle, followed by (b) a few jottings of the usual kind. Now, it may be suggested that what Berkeley did was this. He began by writing notebook B from the beginning to p. 89. He then left a few pages blank at the end of the notebook, in order to state there the positive results of his thought. At the same time he started a new book (A) for the purpose of continuing his jottings and queries. Finally, when A was completely filled (it is filled from the first page to the last), he returned to the pages at the end of B, some of which still remained blank, and wrote the page or two of jottings which form the end of the *Commonplace Book*. But it should be remembered that this is merely conjecture. And, in any case, nothing of importance in connection with the development of Berkeley's thought depends upon it. On the other hand, what is of vital importance, i.e. the transposition of II. and III., we take to be definitely established.

therefore onely in ye mind." This conclusion is obviously of the first importance in the development of Berkeley's philosophy. Time, he has been forced to state, has no existence in itself or in an external world of things. It is simply a sensation or series of sensations, and is thus entirely dependent on the mind. But much more than this is implied. Berkeley has already declared that duration and existence are identical, and the tremendous conclusion follows that all existence is mind-dependent. Time is a sensation, or, as he elsewhere says, a perception . . . *tempus est percipi*; and existence itself is simply a perception or series of perceptions . . . *esse est percipi*. That is the first part of Berkeley's New Principle.

In the next few entries Berkeley confirms and extends "this amazing truth." Extension, he declares, is a sensation, "therefore not without the mind." And in general we may proceed to affirm, "Primary ideas proved not to exist in matter; after the same manner that secondary ones are proved not to exist therein." Primary ideas, equally with secondary ones (which Locke and others had proved to be dependent on perception), are mind-dependent. Hence the great conclusion is confirmed that the whole world depends on thought. "World without thought is *nec quid, nec quantum, nec quale*, etc." The world owes its determinate existence to the fact that it is an object of thought or perception. In being perceived it exists. Hence the source of existence must be in that on which existence depends, and that is consciousness. Consciousness, then, is the only real existence, for the things which owe their being to it have a merely derivative

existence. And the conclusion follows that "Nothing properly but Persons, *i.e.* conscious things, do exist." Existence, then, is of two kinds: in its primary sense it means "perceiving," in a secondary sense it means "being perceived." We may accordingly state the universal and comprehensive truth *esse est aut percipere aut percipi*.

This is, in essence, the kernel of Berkeley's theory of knowledge and existence. The evolution—and it is a real evolution—is complete in the first page of the *Commonplace Book*.

But no sooner had Berkeley reached this conclusion (and indeed before he reached it), than difficulties came crowding into his mind. Nothing, I think, in the whole course of Berkeley's work leaves such an impression of freshness, vitality, and vigour, as the early pages of the *Commonplace Book*. His mind was literally open to the world, problems of all kinds impinged upon it from every direction, and, now that he had discovered his New Principle, it was essential that all these problems should be considered with reference to it, and in the light which it had to give.

These problems fall naturally into three classes: they are either religious, psychological, or mathematical. As an example of the way in which problems literally overwhelm him, it may be of interest simply to enumerate some of the points which he mentions and considers in the first two pages of the *Commonplace Book*. (1) Religious. Immortality, the wisdom of God, the fall of Adam, the knowability of the soul, and the proofs of the being of God. (2) Psychological. The nature of primary and secondary qualities, the question whether a

blind man made to see would know motion at first sight, the nature of colour, the relation of visual and tactal qualities, and the query of Molyneux whether a born-blind man made to see would know a cube or sphere at first sight. (3) Mathematical. The infinite divisibility of time and space, the nature of motion, and the question whether the incommensurability of the side and diagonal of the square is compatible with the New Principle. Most of these special difficulties, many of them of the first importance in themselves and with reference to his theory, were dealt with in detail by him subsequently: the impressive thing about their appearance here is just the fact that they do appear. Berkeley's instinct for the important elements was not at fault; for as early as this he descried the obstacles and hazards in the way of the exposition of the Philosophy of the New Principle.

In the rest of the *Commonplace Book* the New Principle is turned over and over in Berkeley's mind, scrutinised from every possible point of view, examined in the light of all the reading he could bring to bear upon it, and defended against the attacks of imaginary critics. In these pages there is naturally much repetition, for the same difficulties recur again and again. But the repetition is, like Kant's, never entirely negligible. The same fundamental ideas are advanced in slightly different settings, for they have been suggested in slightly different ways.

The development of what is commonly known as the Berkeleian theory is in essentials completed, as we have seen, in the first few lines of the *Common-*

place Book, and it is unnecessary to trace in any great detail the progress of Berkeley's thought in the remaining pages. The precise way in which he dealt with the various difficulties which confronted the New Principle will be treated subsequently. In the meantime it will be sufficient to indicate, in the briefest outline, the *order* in which the various problems seem to have become prominent in his mind.

The general problem which first occupies him is the nature of extension. He has already concluded that extension is simply a collection of ideas ; but this conclusion, he soon realises, teems with important and difficult problems. What, for example, is the relation of visible extension to tangible extension ?—and the relation of either or both to reality ? Again, since the existence of extension consists in being perceived, what becomes of it when it is not being perceived ? Has extension any permanence ? And further, what is the relation of the extension that I perceive to the extension that you perceive ? Has extension any self-identity ? Lastly, if extension consists of discrete ideas, particular perceptions, what do we mean by speaking of its continuity ? (pp. 60-63).

These problems of permanence, identity and continuity are next considered in relation to persons. The existence, permanence, and the like of the external world, Berkeley believes, depend on the perception of persons ; and it is therefore obviously important to examine the grounds on which we ascribe existence to persons. If the existence of persons consists in perceiving, what becomes of them

when they are not actually perceiving ? Does it follow that "men die, or are in a state of annihilation, oft in a day ?" Or, if we say that identity of personality consists in the will, and that the will is continuously active, what is the relation of the finite will to the will of God ? Is its existence swallowed up in God as the ultimate power of perception and action, or does it enjoy a distinct and particular permanence and reality ? (pp. 64-72).

The next main group of problems is concerned with the perception of distance and magnitude. Questions relating to perception have, as we have seen, already been raised by Berkeley, but he does not become preoccupied with them till p. 72. On that page he states in successive entries the two fundamental points in his theory of vision, viz. that there is no *necessary* connection between optic angles and extension, and that distance is not *immediately* perceived by sight. The relation, he goes on to point out, between visual signs and the distance or magnitude they suggest is, though constant association leads us to imagine it to be necessary, really only an arbitrary one. We never *immediately* perceive distance or magnitude. They can only be inferred by us, for they are suggested to us by the signs which, in our experience, uniformly accompany them¹ (pp. 72-82).

In the next few pages Berkeley's mind is, in spite of many distractions, occupied in the main with

¹ It is noticeable that in dealing with these points, soon to be expounded in the *New Theory of Vision*, Berkeley is distinctly more sure of himself than when discussing the problems which we have mentioned in the previous two paragraphs. There he is, for the most part, still asking questions. Here, on the other hand, he makes assertions.

mathematics. The mathematical doctrine of the nature of infinitesimals was perhaps the most difficult obstacle with which his theory had to contend, and it is clear that he read widely in contemporary mathematics with a view to the discovery of a means of overcoming the difficulty. The pages in which he deals with mathematics are the most unsatisfactory in the whole *Commonplace Book*. He saw clearly that, if extension consists of *minima sensibilia*, then of course infinite divisibility is impossible, and the recently discovered and generally accepted mathematical doctrine of infinitesimals must be branded a fiction. Not only so, but it would have to be asserted that the bisection of a line is possible only when it consists of an even number of *minima sensibilia*, and the time-honoured theorem that the side and diagonal of a square are incommensurable would have to be denied. Berkeley accordingly devotes much time to a discussion of these and kindred difficulties (pp. 83-89, 7-14).

In the rest of the book no one group of problems occupies his attention for any length of time. It is noteworthy, however, that psychological questions are almost excluded, no doubt because by this time the *New Theory of Vision* was already in manuscript; and Berkeley's attention is devoted to re-thinking, in all its aspects and implications, the New Principle which he was preparing to publish to the world in the *Principles*. He was thinking a good deal about the relation of the New Principle to religion and morality, he was working out a conception of will and soul that he intended to expound in a subsequent volume of the *Principles*, he was dili-

gently drafting important paragraphs for the Introduction to the *Principles*, and he was reading and re-reading Locke, Newton, Descartes, Malebranche, Hobbes, Spinoza and others, in order to see what criticisms could be brought against his theory from their standpoints (pp. 15-58).

We have now indicated, as far as it is possible to do so with brevity, the origin of Berkeley's philosophy, and the general order in which he considered the problems to which it gave rise. So far, we have not said anything in detail of his relation to other thinkers, and of the extent to which he was influenced by them. And we now proceed to state, in some detail, the points at which his thought seems to have been influenced by other philosophers. In doing this our method will be strictly historical. We will not go beyond the *data* supplied by the *Commonplace Book*, and one or two slight contemporary writings; and, as our method is historical, discussion and criticism of the various theories will be postponed to subsequent chapters. Here we are concerned simply to state seriatim the various points of relation and lines of influence.

In the *Commonplace Book* we find three main sources of Berkeley's philosophy, or perhaps it would be better to say, three main lines of influence on the development of his thought. These were (1) Locke, (2) the Cartesians, especially Malebranche, and (3) Newton and other contemporary mathematicians. Of these Locke is by far the most important. It might, indeed, be proper to claim that he is the only real source of Berkeley's philosophy, and to regard the others as contributing only formative influences.

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gently drafting important paragraphs for the Introduction to the *Principles*, and he was reading and re-reading Locke, Newton, Descartes, Malebranche, Hobbes, Spinoza and others, in order to see what criticisms could be brought against his theory from their standpoints (pp. 15-58).

We have now indicated, as far as it is possible to do so with brevity, the origin of Berkeley's philosophy, and the general order in which he considered the problems to which it gave rise. So far, we have not said anything in detail of his relation to other thinkers, and of the extent to which he was influenced by them. And we now proceed to state, in some detail, the points at which his thought seems to have been influenced by other philosophers. In doing this our method will be strictly historical. We will not go beyond the *data* supplied by the *Commonplace Book*, and one or two slight contemporary writings; and, as our method is historical, discussion and criticism of the various theories will be postponed to subsequent chapters. Here we are concerned simply to state seriatim the various points of relation and lines of influence.

In the *Commonplace Book* we find three main sources of Berkeley's philosophy, or perhaps it would be better to say, three main lines of influence on the development of his thought. These were (1) Locke, (2) the Cartesians, especially Malebranche, and (3) Newton and other contemporary mathematicians. Of these Locke is by far the most important. It might, indeed, be proper to claim that he is the only real source of Berkeley's philosophy, and to regard the others as contributing only formative influences.

in Locke only did he really *derive* anything of the first importance. The original impulse and direction of his philosophy came from Locke, and from Locke also the great *Gemeingut* of ideas which makes the continuity between them as remarkable as their differences.

In the following three sections of this chapter, we shall examine the influence of (1) Locke, (2) the Cartesians, and (3) contemporary mathematicians on the development of Berkeley's thought, especially as it is revealed in the *Commonplace Book*.

III. THE INFLUENCE OF LOCKE

That the mind of Locke exercised an almost magisterial influence on Berkeley is indisputable. But Berkeley was by no means willing to take everything on trust from his master. His admiration was tempered by criticism. Thus, his relation to Locke is one both of attraction and repulsion. This double attitude is manifest at almost every point at which Berkeley came into contact with Locke.

To speak first of the *method* of philosophy. At first Berkeley here followed Locke implicitly. Locke's method is empirical and psychological. He makes an inventory of the actual contents of human experience, and holds that, as our knowledge is wholly derived from experience, philosophy must consist simply in an analysis of that experience.

Locke himself describes his method and aim very clearly in the Second Letter to Stillingfleet. "If I have done anything new," he says, "it has been to describe to others, more particularly than has been

done before, what it is that their minds do when they perform the action that they call knowing." The *a priori* methods of scholasticism had been discredited in natural science; and it seemed probable that the methods of observation and analysis which had proved so fruitful in physical enquiries would, if applied to "inner experience" as their subject-matter, lead to equally successful results. Thus "inner experience" as well as "outer experience" is matter for scientific treatment. In the latter case the enquiry gives rise to the various special sciences; in the former to mental science or philosophy. Observation as directed upon inner experience is introspection, the chief method of philosophy, which Locke defined as the process of "looking into the mind to see how it works."

Berkeley's method is at first, like Locke's, entirely introspective. His objection to Locke is not that he used the method of introspection, but that he did not use it enough. Locke, like other philosophers, had been misled by words, and had been content to take words at their face-value without trying to verify their real meaning. Let Locke and his followers, Berkeley urges, examine their own experience, and they will find that the abstract ideas which they posit have no real existence corresponding to the words which name them. Hence, as the panacea for incorrect thinking Berkeley advocates introspection, or, as he sometimes terms it, using a scholastic word, introversion. "Consult, ransack your understanding," he says.¹ And he is as good as his injunction. For most of the jottings in

¹ i, 27.

the *Commonplace Book* are the result of his own application of the introspective method to his own experience.

Hence for Berkeley the only real philosophy is empirical. "Mem.," he says, "much to recommend and approve of experimental philosophy."¹ The *New Theory of Vision* is wholly psychological, and in the *Principles* he claims that his results are based entirely on his analysis of his own experience: in both cases he advises the reader to confirm the doctrines expounded by examining *his* experience.² We should base our philosophy, he insists, on our own observation of our own experience. "There is nothing more requisite than an attentive perception of what passes in my own understanding."³ In philosophy it is vain, he declares, to postulate anything which we do not find in our analysis of our own experience.

But though Berkeley thus follows Locke's methodology, he goes further than his master. He goes further by going *back* to investigate the foundations of science and the roots of knowledge.⁴ He believes that philosophers like Locke have occupied a vast tract of country, but they have not been sufficiently careful to establish their base and organise their lines of communication. They have not possessed their possessions. Thus the territory that they discovered needs re-discovery and development. Or, to vary the metaphor, the ground which they tilled exten-

¹ i. 18.

² Cf. Introduction to the *Principles*, § 13, *Principles*, §§ 8, 10, 22, 24, 25, 27, 45.

³ Introduction to the *Principles*, § 22.

⁴ i. 25.

sively, and whose produce they thought they had exhausted, can be made to yield still richer and more abundant fruit by the application of intensive methods of cultivation.

Berkeley believes in the need of a critical regress on current methods and assumptions. Locke, indeed, had criticised the scholastic presuppositions which were still implied in much of the philosophy of the day; and, in particular, had destroyed the hoary doctrine of innate ideas. But his criticism had not, Berkeley maintains, been sufficiently radical, and thus many of the old errors were still suffered to persist. The notable instance of an error which had not only not been removed by Locke, but which he actually took pains to reinforce with new arguments of his own was the doctrine of abstract ideas. Locke's acceptance and confirmation of that doctrine is, in Berkeley's view, his greatest mistake, and one which seriously affects the value of the critical method. And in Berkeley's eyes his own great methodological reform consists in driving back the critical regress which had been started by Locke beyond the point reached by him; and in showing that any conception of abstract ideas formed according to the currently accepted theories must be avoided by a true philosophical method.

But in spite of this important difference, a difference which greatly affects the results and ultimate orientation of the two systems, Berkeley agrees with Locke that the great philosophical method is that of observation and introspection. Berkeley is, in fact, a more consistent Locke. *All* our philosophical

conclusions must be based, he insists, on our examination of experience.

Up to a certain point, Berkeley also follows Locke in his view of the result of this examination of experience. At first his inventory of the contents of the mind is very similar to Locke's. With Locke he agrees, at least at first, that "all knowledge [is] only about ideas."¹ Now for Locke "idea" means, in the oft-quoted definition, "whatsoever is the object of the understanding when a man thinks."

In this definition "thinking" covers both sense-perception and reflection. Ideas of sensation are produced by external objects, ideas of reflection by the operations of the mind; but both ideas of sensation and ideas of reflection may be called the objects of the mind. This in outline is Locke's theory of knowledge.

Now, a good deal of misunderstanding of Locke's view has arisen from not keeping carefully in mind a point which, it must be admitted, Locke did not make sufficiently clear; and, if we are to understand Berkeley's relation to him, his theory must be explained with some care.

For Locke, an idea of sensation is one produced by an external object on the senses. But an idea of reflection is produced by the operation of the mind on what Locke calls "internal sense." In each case the preposition "of" indicates the source from which the idea comes. On the other hand, when Locke speaks of an idea of blue, "blue" refers to the object which gives rise to the idea. An idea of blue may be either an idea of sensation or an idea of

¹ *Commonplace Book*, i. 21. Cf. Locke's *Essay*, iv. i. 1.

reflection, according as it is produced by direct stimulation by an external object, or by the representative operation of the mind. Locke calls the idea the object of the mind, but he also calls the external thing the object of the mind. On his view, if we analyse any process of perception, we really have three elements, (i) the external thing, (ii) the idea which results from the perception of the external thing by the mind, and (iii) the mind for which the idea becomes an object. The idea thus occupies an intermediate position between the mind and the thing. "It is evident the mind knows not things immediately, but only by the intervention of the ideas it has of them."¹

To formulate in exact and precise terms Locke's conception of the relation of the idea to the mind on the one hand, and to the thing on the other, is exceedingly difficult, if not impossible. But it is possible to say what he did not mean. (1) The relation between mind and idea is not that of substance and attribute, nor of phenomenon and noumenon, nor of appearance and reality. All these statements of the relation involve metaphysical theories foreign to Locke. The best statement of the relation, and one sanctioned by Locke, regards the idea as the copy of the thing. But only some ideas (those of primary qualities) are copies of things. (2) The difficulty of stating the relation of the idea and the mind is equally great. Locke constantly speaks of ideas as "in the mind." But it is a mistake to say that, for Locke, ideas are "states of consciousness" or "mental affections."

¹ *Essay*, iv. iv. 3.

He does not dream of saying that we know only our own states of consciousness. Nor is an idea a "mental affection." Malebranche had raised the question of the relation of a mental modification or affection to an idea. In the *Essay* Locke does not touch the problem at all, and in his criticism of Malebranche¹ he does not seem to see that there is a problem. To say that the idea is "mental" would suggest an opposition which was absent from Locke's mind between "mental" and "non-mental." In so far as an idea is said to be in the mind, it would seem to be mental; but as the object of the understanding, that which is perceived, it would seem to be non-mental, though on a different level from the physical object. But Locke does not seem to have asked himself whether an idea is mental or non-mental. He was content simply to say that it is the object of the understanding. Thus the fundamental fact, and that in which Locke is mainly interested, is that in the widest sense the idea is (i) the copy of the thing, and (ii) the object of the mind.

Berkeley at first, in his zeal "to simplify and abridge the labour of study," thought of denying the existence of both minds and things. Only ideas would be left. Of different kinds, and in various combinations, they alone would constitute the whole of experience. But though Berkeley actually suggests the banishment of both minds and external things, he insists upon it only in the case of external things.

¹ *An Examination of Father Malebranche's Opinion of Seeing All Things in God.*

He had what seemed to him excellent reasons for denying the existence of external things, and indeed his criticism of Locke left him no option. Locke's account of the "original" of knowledge, Berkeley maintains, is untenable. His view of the relation of idea and thing as that of copy and thing copied is impossible, because if the mind is confined to knowledge of its own ideas, "it can compare nothing but its own ideas."¹ In order to test the truth of its own ideas, the mind ought to be able to compare them with the things which they copy. But this is impossible, (a) because the idea can be like nothing but another idea,² and (b) because the mind, on Locke's view, is incapable of knowing things without the medium of ideas.³ Further, since external material things cannot be known directly, it will be necessary to show that they perform some useful practical function, if we are to be justified in retaining them even as postulates. But Locke's own account of material substance shows how incapable material things are of undertaking the task he has assigned to them, for, as in his view matter is wholly passive, it is unable actively to produce ideas in us. Berkeley accordingly thinks that, since Locke's external things have been shown to be theoretically unknowable and practically useless, we are justified in applying Occam's Razor, and retaining ideas only. He has no objection to calling ideas "things," though "thing" is wider than "idea," provided we do not import into the term "thing" any notion of material existence.⁴ And he protests against the use of the phrase, "idea of something," on the ground

¹ i. 90.

² i. 56.

³ i. 63.

⁴ i. 50.

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¹ i. 90.

² i. 56.

³ i. 63.

⁴ i. 50.

that it implies the false suggestion that the idea and the thing are different.¹ For Berkeley the idea is the thing perceived, and the thing perceived is the idea. "By idea I mean any sensible or imaginable thing."² The problem of the relation of idea and thing thus becomes non-existent, for they are identical.

Not so the question of the mind's relation to its ideas. That is a real problem. Berkeley speaks, as Locke had done, of ideas being "in the mind," and once or twice even suggests that the mind is nothing but these constituent ideas. He very soon abandoned that theory, but there is some justification for the view that in the *Commonplace Book* an idea is regarded as some kind of mental modification. Yet in the *Commonplace Book* we also have the reiterated assertion that the idea is the *object* of the mind.³ "The house itself, the church itself, is an idea, *i.e.* an object—immediate object—of thought."⁴ To Berkeley's treatment of this problem we must return later. In the meantime it is sufficient to note that the important thing for Berkeley is that the universe consists solely of minds and ideas.

His study of Locke's and Descartes' theory of primary and secondary qualities also helped to lead him to this conclusion. Locke, largely following Descartes, had developed the distinction between primary and secondary qualities. Primary qualities are extension, solidity, figure, number, motion and rest. All others are secondary. Primary or real qualities actually belong to the thing, whether it is perceived or not; but secondary or imputed

¹ i. 35.

² i. 47.

³ i. 51.

⁴ i. 9.

qualities do not inhere in the thing, but depend for their existence on our perception of them.⁵ Only in the case of primary qualities is the idea like the original. "Their patterns do really exist in the bodies themselves." But with secondary qualities, "there is nothing like our ideas existing in the bodies themselves."⁶ Ideas of secondary qualities are entirely dependent on the mind which perceives them. Now Berkeley points out that Locke's arguments for the mind-dependent existence of secondary qualities may be applied also to primary qualities.⁷ He holds that Locke has failed to make out a case for the different treatment of primary and secondary qualities, and maintains that ideas of primary qualities must be reduced to the same level as ideas of secondary qualities. Both alike are entirely dependent on being perceived; and the only reality is mind and its ideas.

But Berkeley insists that this *is* reality. He admits, indeed, that at first sight his argument against the independent existence of primary qualities seems to deprive us of reality. The reality of extension, figure, solidity and so on seems to have vanished. But this is only in seeming. Berkeley maintains that his theory conserves reality, and he is inclined to think that it is the only one that does.⁸

Berkeley's theory of reality, like his theory of knowledge, is very closely connected with Locke's doctrine, and, if we would understand its significance, we must examine how Berkeley developed it by criticism of Locke.

Locke's doctrine of reality follows directly from

⁵ *Essay*, II. viii. 15.

⁶ i. 59.

⁷ i. 23.

his theory of knowledge. For Locke the only objects of knowledge are ideas; and ideas, distinguished according to their source, may be classified, as we have already pointed out, as ideas of sensation or ideas of reflection. But there is another distinction drawn by Locke, to which, though it is of great importance, we have not yet paid attention. That is the distinction between simple ideas and complex ideas. Simple ideas are the ultimate unanalysable elements of all knowledge, and in its apprehension of them the mind is wholly passive and receptive. On the other hand, in complex ideas, which result from the union or composition of several simple ideas, the active operation of the mind is displayed. Regarding simple ideas as the material and foundation of all knowledge, the mind combines, by determinate processes, certain of them which are regularly found together in our experience into aggregates or compounds; and to each of the complex ideas thus formed we assign a name, and come to regard it as representing one thing.

Now, this would be impossible, said Locke, unless some "substance" existed to account for the coherence of simple ideas. Without some support or substratum simple ideas would fall apart; and, if nothing but simple ideas existed, knowledge would not be possible, for knowledge depends on the practicability of combining and compounding them. Thus reality depends on substance: substance is the support or substratum of real things, and without this substratum permanence and self-identity, the two ultimate characteristics of reality, would not be possible.

What, then, is substance, which apparently discharges an indispensable function in the universe? Locke admitted that he could give no account of it. We no more know what the substratum or support of things is than the Indian philosopher did who declared that the world is supported by an elephant, the elephant by a tortoise, and the tortoise by—he knew not what. Substance, then, is an obscure idea of somewhat—we know not what.¹

At first Berkeley seems simply to have taken over this conception from Locke. Thus in one of his early entries he claims that he has demonstrative knowledge of the existence of bodies, meaning by "bodies" "combinations of powers in an unknown substratum."² But from such a conception of an unknown support of qualities or powers he very soon emancipated himself.

Against the view he brings the very natural argument that, as we can in no way know the support or substratum, and as it performs no indispensable function, it is quite unnecessary to assume it. The reason why no account can be given of this substratum is not that it is obscure, as Locke supposed, but that it is non-existent. And Berkeley suggests that all we mean by the substance of a thing is "the collection of concrete ideas included in that thing,"³ In this sense, Berkeley allows, we may still speak of the substance of a thing. But substance in general, or the abstract idea of substance, is nothing but a philosophical fiction.

Granted, then, that Locke's substance is an impossibility, what gives permanence and reality to

¹ *Essay*, II. xxiii. 2.

² I. 64.

³ I. 20.

things? At first Berkeley was inclined to assume the existence of certain mysterious *powers* to perform this function.¹ But he soon recognised that such powers, of which we can give no account, are in no better case than Locke's substance, and if Locke's substance be abandoned, these obscure powers cannot be retained.

The conclusion to which Berkeley is finally driven is that the reality of things rests on no substance or set of powers, but depends on being perceived. This is what Berkeley regards as his great discovery—*esse est percipi*. That this conviction dawned on him very early in his philosophical development has already been pointed out; but it is interesting to notice that this, which is usually regarded as the most original element in his whole philosophy, had already been suggested by Locke. "When ideas are in our minds," said Locke, "we consider them as being actually there . . . which is that they exist or have existence."² For Locke the *esse* of ideas is *percipi*. Now, Berkeley held, as we have seen, that things are simply collections of ideas, and therefore, adopting Locke's view of the *esse* of ideas and applying it universally, he reaches the conclusion that the *esse* of all collections of ideas, i.e. all things, is *percipi*. The general principle may, therefore, be stated as *esse est percipi*.

But this definition, Berkeley sees, is not sufficiently comprehensive. It is true only of one of the two classes into which Locke divided things. Locke drew a distinction sharp on the whole between active things and passive things. Passive things

¹ i. 60, 61, 64.

² *Essay*, II, vii. 7.

are those which are not self-subsistent, but depend on something outside themselves, while active things are self-supporting and substantial. It should not be overlooked that this distinction, which is of the utmost importance in Berkeley's philosophy, is simply taken over by him from Locke.¹ Berkeley, of course, translates it into his own terminology, and holds that while passive things depend on being perceived, the existence of active things (or persons) consists not in being perceived but in perceiving. Thus the complete definition of existence is as follows: "Existence is *percipi* or *percipere*."²

Hence the pivot of Berkeley's whole doctrine of reality is the mind. Active things exist as percipient, i.e. as minds; and passive things exist as objects of perception, i.e. as dependent on the mind. All reality, then, is connected with the mind, and it is obviously of the greatest importance for Berkeley's theory of reality to know exactly what the mind is.

¹ At the risk of labouring the obvious, I should like to repeat that the features of Berkeley's theory which excited most attention in his own day on account of their apparently paradoxical character were immediately derived from suggestions made by Locke, though never elaborated by him.

² Under *percipere* Berkeley here means to include volitions and other active operations of the mind. In the margin of the *Commonplace Book*, opposite the entry quoted above, and with reference to the word *Percipere*, he adds a note, "or *velle*, i.e. *agere*." He hesitates a good deal whether to affirm that the mind is active in perception. On the whole, he seems to incline to the view that (a) in sense-perception the mind is passive and receptive, while (b) in imagination (which he sometimes includes under *percipere*) the mind is active. But he also maintains, without vacillation, that it is really volition that constitutes the activity of the mind; and, as he believes that volition is impossible apart from perception, the activity of volitional experience confers a certain degree of activity on percipient experience. (Cf. *Commonplace Book*, i. 34, 37, 47, 52, 83.)

In his investigation of the meaning of the mind, he again has recourse to a consideration of Locke's theory.

To the question What is the mind? Locke had given two distinct answers, both of which occupied Berkeley's attention.

(1) The mind is, on Locke's view, apart from experience, a piece of white paper whose blanks have yet to be filled. It is a *tabula rasa* on which ideas must be impressed *ab extra*. In perception the mind is thus purely passive; it depends for its knowledge wholly on what it receives from the external world, and it can exercise no active function at all.¹ Locke disagrees with the Cartesian view that because it is the essence of the mind to think therefore the mind always thinks. "Every drowsy nod shakes their doctrine, who teach that the soul is always thinking."² Berkeley criticises Locke,³ and returns to the Cartesian theory, for he sees clearly Locke's inconsistency. If the mind is purely passive, how does it come by complex ideas? Can the piece of white paper make marks upon itself? Complex ideas are the result of the voluntary operation of the mind in dealing with simple ideas impressed upon it in perception. But a mind which voluntarily operates cannot be passive.

(2) On the other hand, Locke holds also that the

¹ In the fourth edition of the *Essay*, Locke, perceiving the inconsistency into which he was led by this doctrine, introduced a paragraph or two pointing out that in certain cases the mind might exercise active functions. (*Essay*, II. xii. 1.)

² *Essay*, II. i. 13.

³ "Locke seems to be mistaken when he says thought is not essential to the mind" (i. 34).

mind is a complex spiritual substance.¹ When he speaks of the activity of the mind, he is usually thinking of this theory. He holds that the same arguments as lead to the belief in material substance justify our belief in spiritual substance, for only those whose thoughts are immersed in matter find it more difficult to conceive spiritual than material substance.

This theory also influenced Berkeley. He had denied the existence of material substance, maintaining that a thing is nothing but a collection of sensible qualities; and he was inclined to think that consistency required him to deny the existence also of spiritual substance, and affirm that the mind is only an aggregate of ideas. In the *Commonplace Book* he actually suggests this, and thus anticipates Hume in reducing his theory to consistency. "Mind," he says, "is a congeries of perceptions. Take away perceptions and you take away the mind. Put the perceptions and you put the mind."² He means to deny, as Hume afterwards did, that there is any entity apart from ideas, and asserts roundly that the understanding is simply perceptions and the will nothing but volitions. Self, soul, understanding, will, are merely names for collections of ideas or volitions. Apart from these ideas and volitions, which wholly constitute them, they have no existence.³

¹ Locke left the question open whether spiritual substance is really spiritual or simply very finely material. The latter interpretation of the spiritual was well known in the Schools, and Locke admits the possibility that spiritual substance may really be very fine material substance. This was anathema to Berkeley.

² I. 27, 28.

³ I. 27, 31, 38, 41, 51, 53, 56, 69.

Though Berkeley reiterates this view and is apparently satisfied with its theoretical consistency, certain practical considerations made it impossible for him to rest in it. Is it quite certain, he asks, that the understanding is nothing over and above its perceptions? Still more, "what must one think of the will and passions?"¹ Is the will, as Hume was later to say, nothing but the passions? Berkeley's moral and religious interest prevented his believing this. The will must be distinct from, and superior to, the passions. The understanding is more than the ideas. Both understanding and will are active and may be identified with one another and with spirit. But Berkeley prefers to regard understanding and will as at least verbally distinct. "The concrete of the will and understanding I might call mind."² Mind as an entity must exist.

Berkeley was led to the same conclusion by the consideration of the problem of the unity of experience. If there is no matter, but only sensible qualities, and if there is no mind, but only fleeting ideas, how can mind have any unity? I cannot even speak of *my* ideas, because I do not exist apart from the succession of ideas. An experience of this sort would be utter chaos. "What mean you," Berkeley asks, "by *my* perceptions, *my* volitions?"³ Berkeley sees that it is necessary to postulate the existence of a personal self to guarantee the unity of experience. But he deliberately avoided giving any account of the meaning of personality. "Mem.," he says, "carefully to omit defining of person, or making much mention of it."⁴

¹ i. 28. ² i. 41. ³ i. 45. Italics mine. ⁴ i. 41.

Still another point impressed upon Berkeley the necessity of a permanent mind or self. As we have seen, ideas are passive, "impotent things." Hence an active mind is necessary to bring them into complexes and manipulate them. A collection of ideas by itself will always remain passive. Thus the active mind or spirit must be more than any idea or congeries of ideas.

But the problem of identity and permanence must be probed further. Granted that there are minds, and that existence means simply perceiving and being perceived, what account can we give of the permanence and identity of ideas or things and of minds or persons? Neither persons nor things have identity, if identity means durational continuity. Berkeley is at first inclined to give up the permanence both of things and persons, and he is thus forced to seek some other ground for their identity. With regard to things, he points out that their existence is often interrupted by "divers beginnings and endings."¹ Ideas are particular perishing existents. Nor do persons have an uninterrupted existence.² The mind does not exist in sleep.³ The mind exists only so long as it is actually perceiving, and things exist only when they are being perceived. But Berkeley's efforts to find any adequate ground for the identity of persons and things, after making this admission, proved fruitless; and he was therefore compelled to retrace his steps and attempt to establish the permanence both of things and persons. In dealing with persons, he simply reaffirmed, against Locke, the Cartesian view that the mind

¹ i. 72.

² i. 71.

³ i. 34.

always thinks. Even in sleep the mind is active, and thus the mind as thinking substance is permanent and self-identical. Mind is *essentially* percipient, and hence permanently existent.

But the permanence of things cannot be so easily preserved. It will not do to say that things are always perceived by finite minds, because that can be experimentally disproved. Berkeley first attempts to maintain the permanence of things by an interesting variety of the Cartesian *cogito ergo sum* argument. According to this argument, I cannot doubt my own existence, because the very doubt, the thought, proves that a thinker exists. Now Berkeley believes that things exist whenever they are perceived or imagined or thought of. Hence, the very question whether a thing exists proves that it does. As mentioned, it exists.¹ But Berkeley soon saw that this explanation is untenable. In the first place, the existence of an object merely thought differs from the existence of an object directly perceived. In the second place, what happens to the thing when it is neither perceived nor imagined nor thought on nor referred to in any way? It must simply vanish. But Berkeley could not rest in this conclusion. It is necessary, in order to account for our practical social and moral relations to our fellow-men, that things should exist even when they are not being perceived or referred to in any way. The permanence of things cannot, therefore, depend on our finite minds. It is based on the fact that they exist as powers, or potentially, in the mind of God.² But this is not an actual existence.³ Berkeley is

¹ i. 15.

² i. 61.

³ i. 71.

thus forced to distinguish two kinds of existence, a permanent potential existence in the mind of God, and an actual intermittent existence only when things are being actually perceived by finite beings. This intermittent existence owes what unity it has to the fact that its potential permanence is guaranteed by God.

Even here Berkeley was influenced by Locke. It is true that God in Berkeley's system is much more important than in Locke's, but the function which Berkeley makes God perform is suggested by Locke. When pressed, Locke is unable to explain how we come to have ideas. In the last resort, he thinks, God is responsible for the regularity and uniformity of our experience. "I see or perceive or have ideas when it pleases God that I should, but in a way that I cannot comprehend." In imagination I can bring ideas before my own mind by my own volition, but not in perception. The regularity of my perceptual experience depends partly on God, and partly on the material supports of ideas. As Berkeley eliminates material substance, God is left to sustain the whole burden of securing the permanence and identity of things and the regularity of perceptual experience. Berkeley agrees with Locke that while perceptual experience must ultimately be referred to God as its ground, we are the causes both of our imaginative and volitional experience.

Berkeley believes, as we have seen, that minds are necessary for the constitution of experience. But so far we have not yet considered how minds may be known. Minds for Berkeley are sharply distinguished from ideas, and therefore we can have

no perceptual or imaginative knowledge of minds. How then do we know minds? On this problem also Berkeley's efforts to reach a solution show the influence of Locke. Locke maintained that knowledge of the mind is possible. If we regard the mind as a *tabula rasa*, then the knowledge we have of it is intuitive. On the other hand, if we take the mind to be a spiritual substance, then we can have of it precisely the same sort of knowledge as of any other complex idea. Mind, as a spiritual substance, knows itself, as a spiritual substance. Thus a complex idea knows itself. The difficulty of this view is obvious. A complex idea, like the simple ideas of which it is compounded, is passive. How then is it able actively to compound itself? It must be active to bring together the complex of ideas which constitute it. But in its nature it is passive.

In the *Commonplace Book* Berkeley tried to make use of both of Locke's explanations, but he felt that neither of these views was really satisfactory. Both of them are inconsistent with his doctrine that all our knowledge is derived from the senses. *Ex hypothesi*, intuitive knowledge is neither sense-knowledge itself, nor derived from sense-knowledge. It is a unique and peculiar sort of knowledge, of which we can give no account. For Berkeley it was a scandalous exception to his doctrine, and one which he was anxious to remove. On the other hand, the view that an idea of the self is possible conflicts equally with Berkeley's theory that all knowledge is perceptual. Berkeley's introspection revealed to him only aggregates of ideas in perpetual flux. Introspection does not enable us to form an

idea of the mind as an entity distinct from the series of fleeting perceptions. It is impossible to perceive the mind. Must we then conclude that the mind is utterly unknowable?

Hume, arguing in precisely the same way as Berkeley, that no idea of the mind is possible, took the further steps of affirming that the self is therefore unknowable, and that because it is unknowable it is non-existent. We have seen that Berkeley was unable to rest in the sceptical denial of the permanence of the self. Equally did he avoid scepticism with regard to the knowability of the self. He saw the need of revising his doctrine that all knowledge is knowledge of ideas. Nor was he willing to take refuge in intuition. When the entities of which it was necessary to postulate an intuitive knowledge were only one or two, e.g. the self and God, such important exceptions to the general doctrine that all knowledge is sense-perception might perhaps be allowed. But as soon as it became clear to Berkeley that it would be necessary to admit an intuitive knowledge of whole classes of things, e.g. volitions and other mental operations, he realised that it would be essential to modify his early theory of knowledge.¹ Knowledge, he believed, is perceptual; but it cannot all be perceptual. There must be another kind of knowledge of such things as selves, volitions, mental operations, and relations. Now Berkeley refused to be content with the *obscurum per obscurius* of referring such knowledge to intuition. What kind of knowledge is it, then, that we have of such objects? In the *Commonplace Book* Berkeley has no answer

¹i. 24.

to this question, though he is convinced that (*a*) we can have no *idea* of them, and (*b*) we *can* know them somehow.

Of what nature this non-ideal knowledge would be Berkeley does not make clear. But he suggests that it would be by way of "pure intellect," for in such knowledge the mind is active and thoughts called "the interior operations of the mind."¹ And Berkeley once or twice speaks of the mind "considering" things, in distinction from perceiving or imagining them. Such entries as these, vague as they are, suggest that even in the days of the *Commonplace Book* he was engaged on the problem of the nature of what he afterwards came to call "notions." With this notional knowledge of selves, mental operations, and moral conceptions he intended to deal in Part II. of the *Principles*.²

So far, we have been dealing with the implications of what Locke called the complex idea of substance. But substance was not the only kind of complex idea mentioned by Locke. He assumed the existence of two other types of complex idea, which he called respectively modes and relations. Now, modes and relations stand on a very different footing from substances. Substance is not only self-subsisting, it also serves as the support of all qualities. But modes and relations cannot subsist of themselves. Modes depend upon substances, or are attributes of

¹ i. 81.

² It is quite certain that, when the *Commonplace Book* was written, Berkeley believed that this non-ideal knowledge is the only kind of acquaintance we can have with the self, the will, and mental operations in general. Of these, he repeatedly states, we can have no *idea*. (Cf. *Commonplace Book*, i. 35, 36, 49.)

substances; and relations, depending on the comparison of one idea with another, have no existence apart from the ideas which they join, or on which they terminate. Hence modes and relations can never be independent. They cannot exist by themselves: they exist only as dependent upon substances.

On the whole, Berkeley paid very little attention to Locke's doctrine of modes and relations, but even here certain lines of influence may be traced.

With regard to modes Berkeley differs in an important respect from Locke. For Locke all modes are complex ideas, which the mind has made "by combining several simple ideas into one compound one."¹ With this definition Berkeley refuses to agree, for in his view a complex idea is not a compound, not one idea, but simply an aggregate of several simple ideas, and, though we may express this aggregate by a single word, no idea corresponds to it. Again, Berkeley holds, modes cannot depend upon, or be affections of, material substance, for it is non-existent. He agrees with Locke that modes are not self-subsisting: "they are not so much existences as manners of the existence of persons."² He thus substitutes spirit for material substance as the support of modes. He takes little notice of Locke's distinction between simple and mixed modes. The distinction depends on whether the simple constituents are of similar or different sorts. If the mode is simply the repetition of the same simple idea, as a score, for instance, is a repetition of unity, then the mode is simple; but if the simple ideas compounded to make the complex one are of different

¹ *Essay*, ii. xii. 1.

² i. 59.

sorts, *e.g.* as beauty involves different ideas of color, shape, and so on, the mode is mixed. In the *Commonplace Book* he uses Locke's terminology, but for him the distinction is strictly unmeaning. If a complex idea is merely a bare aggregate (and this, as we have seen, is the only meaning Berkeley is willing to assign to it), it does not matter whether that aggregate is a collection of similar or different ideas.

Of relations, the second of Locke's types of complex ideas which we are at present considering, Berkeley has little to say. He agrees with Locke, as we have seen, that relations exist; but he holds that we can have no *idea* of them. We can use relations, talk about them, and express them in language by particles. They have a meaning, and that is all we can say of them.

In connection with one particular type of relation, however, Berkeley paid a good deal of attention to Locke's theory. The relation in question is the causal relation. Locke had confused his treatment of the problem by introducing an artificial distinction between the *relation* of cause and effect and the *mode* of power. But Berkeley has no artificial schema to support, and he holds that the problems of power and causality are essentially the same. In the *Commonplace Book*, we may remind ourselves, his world consists of (i) God, (ii) finite selves, and (iii) ideas. He first states that no idea can be a cause, for all ideas are passive. So far he agrees with Locke,¹ who maintained that God and spirits manifest active power, while things (*i.e.* Berkeley's ideas) are passive powers. Idea-things for Berkeley as for

¹ Locke is not quite positive on this point. (Cf. *Essay*, II. xxi. 2.)

Locke are susceptible but not productive of change. Thus, for Berkeley as for Locke only God and selves are active; and they alone can strictly be called causes.¹ At one time Berkeley thought of allowing causality to idea-things, while carefully distinguishing this physical causality from spiritual or true causality.² But later on he deemed it better to restrict causality to spiritual causes alone, and to term idea-things "occasions." An idea-thing may be the occasion of an action or thought, but it cannot really be the cause.³

The problem next arises how to apportion causality between the self and God. In the *Commonplace Book* Berkeley vacillates, at one time tending to the extreme theory of Malebranche that God is the sole cause, at another to the common-sense belief that finite selves exercise a real causality. On the whole, his view in the *Commonplace Book* is that God is the ultimate cause of all things, but the proximate cause only of immediate perceptions. Finite selves are the proximate causes of imaginative and volitional experience.

So far, in considering Berkeley's relation to Locke, we have not adverted to the aspect of Locke's theory which, more than any other, led Berkeley to devote himself to the task of refuting him. This was Locke's scepticism.

That Berkeley was hostile to the deists has already been pointed out. Now, the deists themselves regarded Locke as the father of their scepticism, and though Locke went out of his way to disclaim the

¹ There is, however, another side to Locke's view. ² i. 55.
³ i. 55.

paternity, Berkeley seems to have been inclined to impute it to him. At any rate, he felt it necessary, in his practical efforts to stamp out "atheism," to aim straight at what he considered the sceptical tendencies of Locke's theory of knowledge; and his arguments to prove Locke a sceptic are quite ingenious. He shows that, on Locke's own theory, he cannot possibly escape absolute scepticism.

Locke divided knowledge into three kinds which he called respectively intuitive, demonstrative, and sensitive. He believed that only in intuition and demonstration is certainty possible, for only there do we have "real knowledge." Of all the kinds of knowledge intuition is, Locke affirms, the most certain. By it we perceive the agreement or disagreement of two ideas immediately, without any process of reasoning or inference; e.g. "that *white* is not *black*, that a *circle* is not a *triangle*, that *three* are more than *two* and equal to *one* and *two*."¹ Demonstrative knowledge, on the other hand, is not immediate; it is always mediated by other ideas, and depends on processes of reasoning which we call proofs. Demonstrative knowledge depends for its certainty on the possibility of proving relations between abstract ideas.

All other so-called knowledge, Locke maintained, is not really knowledge at all, but only opinion. For all knowledge not based on intuition and demonstration is, in the last resort, sensitive knowledge, and thus can give no certainty. For in mere sense-perception we are confined within the limits of our own ideas, and can never reach reality.

¹ *Essay*, iv. ii. 1

For the purposes of criticism Berkeley accepts this classification of knowledge; and argues that, as it can be shown that the first two kinds of knowledge do not give certainty, and as Locke himself admits that the third does not, he cannot escape absolute scepticism.

Berkeley reminds us that demonstrative knowledge for Locke depends on proving relations of agreement and disagreement by means of abstract ideas. Now, Berkeley has already shown that such a conception of abstract ideas as is cherished by Locke is self-contradictory, and it therefore follows, he holds, that the vaunted certainty of his demonstrative knowledge will vanish.

Thus, as Locke himself admits that sensitive knowledge supplies no certainty, and as demonstrative knowledge (at least on Locke's view of it) has been shown to be impossible, it follows that only intuition remains to save him from utter scepticism.

But intuitive knowledge, Berkeley maintains, is only a broken reed; and so far is it from being able of itself to bear our weight that unless we can bring support to it from other quarters we are not justified in ascribing any certainty at all to it. We often think we have an intuitive certainty of what is either unreal or non-existent. Again, what seems intuitively true to one man may seem intuitively false to another, and, if our only standard of certainty is intuition, it will be impossible to decide which of these conflicting intuitions really gives truth. Thus, here also, Berkeley urges, Locke is necessarily involved in scepticism.

Berkeley's own theory of knowledge is, of course, largely modelled on Locke's; but he believes that the changes which he has introduced enable him to escape the force of the criticisms which he has just brought against Locke. Intuitive knowledge he wisely avoids as much as possible, for he sees that the criticisms he has used against Locke's theory are valid against any theory of intuition. Therefore he sets no store by it.¹ But he believes that certainty is possible on the theories of sensitive and demonstrative knowledge which he developed.

He claims, in the first place, that knowledge in sense-perception is not mere opinion, as Locke held, but gives absolute certainty. "Certainly," he says, "I cannot err in matter of simple perception."² "We must with the mob place certainty in the senses."³ "Certainty, real certainty, is of sensible ideas." And though Berkeley came later to modify his belief that error is impossible in sensitive knowledge, he never resiled from the conviction that, in general, the senses provide us with certain knowledge; and he always regarded it as a great part of his work to have vindicated the senses from the aspersions cast upon them by Locke and others.

And certain knowledge is possible also in demonstration. But by demonstration Berkeley does not mean, as Locke did, reasoning by means of intervening abstract ideas; he means reasoning by means of words or signs. "Demonstration," he says, "can be only verbal."⁴ In the *Commonplace Book* Berkeley has simply adopted the extreme nominalism

¹ Yet he occasionally uses intuition rashly. (Cf. i. 24, 26.)

² i. 39.

³ i. 44.

⁴ i. 50. Italics mine.

of Hobbes. The possibility of reasoning depends on the demonstration of *words*. In reasoning about particular things we take one particular to stand for or represent other particulars of the same kind, and to designate the whole class of particulars we use one *word*. We pay no attention to the differences between the particulars: they bear one *name*, and it is on the name that we reason. In the *Commonplace Book* Berkeley simply substitutes words for Locke's abstract ideas. And the reason he gives for the demonstrability of words or signs is precisely that which Locke finds to be responsible for the possibility of demonstrating relations of abstract ideas, *i.e.* that they are made by us.¹ Berkeley changes Locke's conceptualism into a nominalism. But this was a passing phase which was under eclipse by the time he wrote the *Principles*.

Berkeley's general conclusion in the *Commonplace Book* is that his theory of knowledge is free from the sceptical tendencies which Stillingfleet and others had discerned in Locke; and that, in spite of its paradoxical appearance, it is the only theory of knowledge perfectly consistent with common sense.

Before passing from our investigation of Berkeley's relation to Locke, we may note (the point is interesting and may be important) that his criticisms of Locke, on several fundamental points, are very similar to those of the latter's little-known critic, John Sergeant. It would be very rash to say that Berkeley adopted them from Sergeant. There can be little doubt that he arrived at them independently. But it is well to bear in mind that, as is shown by a

¹ i. 44.

reference in the *Commonplace Book*,¹ he was acquainted with Sergeant's *Solid Philosophy*, and further, not only were many of his most telling criticisms of Locke anticipated in that book, but his own conception of a mind-dependent universe was very clearly foreshadowed by its author.

Though Sergeant was a writer of some merit, he is now almost unknown, and as his *Solid Philosophy* is extremely rare, I shall point out with some care the respects in which his criticism of Locke forestalls Berkeley, and the suggestions which he makes towards the philosophical doctrine which Berkeley afterwards expounded.

Sergeant's book² is a criticism of Locke's "way of ideas." In it he makes it his aim, he tells us, "to disintegrate truth," which Locke had allowed to become sadly entangled with words and fancies; and thus to establish "solidly," in opposition to Locke's ideism and scepticism, our real knowledge of the real world. It is rather interesting to notice in passing that just as our contemporary realists seem all to be tending towards phenomenism, so this "solidist" anticipates the idealism of Berkeley. But in the meantime I wish to draw attention, not to his anticipation of Berkeley's positive work, but to his criticism of Locke.

Sergeant interprets Locke's "ideas," precisely as Berkeley does, to mean merely copies or images of things; and he argues, on the same lines as Berkeley

¹i. 54.

²*Solid Philosophy Asserted, against the Fancies of the Ideists: or, the Method to Science Farther Illustrated. With Reflections on Mr. Locke's Essay concerning Human Understanding.* London, 1697.

adopted, that if our knowledge starts with ideas, we must be forever confined within the circle of our own ideas. If, that is, our knowledge begins in ideas which are defined as similitudes, resemblances, pictures, then our knowledge must terminate in ideas. "That only is known," says Sergeant, "which I have in my knowledge, or in my understanding; for to know what I have not in my knowledge is a contradiction: therefore, if I have only the idea, and not the thing, in my knowledge or understanding, I can only know the idea and not the thing; and, by consequence, I know nothing without me, or nothing in nature."¹

Sergeant goes on to show that if ideas are the copies of things, and if truth consists in the agreement of the copy and the thing, then we must know both the copy and the thing. But we have already seen that we know only the copy. Hence Locke's account of truth falls to the ground. Sergeant, then, deserves credit for his acumen in exposing the fallacy of the doctrine of representative perception. "We cannot possibly know at all the things themselves by the ideas, unless we know certainly those ideas are right resemblances of them. But we can never know (by the principles of the Ideists), that their ideas are right resemblances of the things; therefore we cannot possibly know at all the things by their ideas."² Of this thesis Sergeant proceeds to give a syllogistic proof. "The minor is proved thus; we cannot know any idea to be a right resemblance of a thing, (nor, indeed, that anything whatever resembles another rightly,) unless they be

¹*Op. cit.* p. 30. Cf. p. 20.

²*Op. cit.* p. 31.

both of them in our comparing power, that is, in our understanding or reason, and there viewed and compared together, that we may see whether the one does rightly resemble the other, or no. But this necessitates that the thing itself, as well as the idea, must be in the understanding, which is directly contrary to their principles; therefore, by the principles of the Ideists, we cannot possibly know that their ideas are right resemblances of the thing.”¹

Sergeant also argues that Locke's theory involves a regress *ad infinitum*. “Again, since Mr. Locke affirms that we know nothing, either by direct or reflex knowledges, but by having ideas of it; it must follow, that when by a reflex act I know my first idea got by a direct impression, I must have an idea of that direct idea, and another idea, when I know that reflex one, of *it*; and still another of *that*; and so still on....”² What seems to impress Sergeant most is the impossibility of an idea of an idea, in the sense of an image, a similitude of a similitude. In this, in itself, there is in reality no difficulty, and his argument is of little value. He is on surer ground when he points out that in the regress of ideas we reach no end: if, that is, we cannot know a thing directly and immediately, but only by means of an intervening idea, then we need another idea to intervene and relate the mind to the original intervening idea. This regress *in infinitum* is the direct result of the initial assumption of Locke, viz. that we cannot have immediate knowledge of particular things.

Another of Berkeley's criticisms of Locke which is anticipated by Sergeant concerns abstract ideas.

¹ *Op. cit.* pp. 31-32. Cf. p. 342.

² *Op. cit.* p. 20.

Like Berkeley, he argues that abstract general ideas are self-contradictory, because idea for Locke means image or likeness, and an abstract universal image or likeness is a contradiction in terms. Images, like the things of which they are copies, are always particular. “If then we have an idea or likeness of universality, or generality, what is it like? It must either be like the thing, or must be like nothing, and so is no idea or likeness at all. But it cannot be like the thing in any respect, because in the thing there is nothing that is general or universal; but all that there is particular and determined; which is quite unlike, nay, opposite to universality or generality.”¹

Sergeant then states sharply the dilemma with which Locke and his supporters are confronted. “Philosophy,” he presumes, “is the knowledge of things; but if I have nothing but the *ideas* of things in my mind, I can have knowledge of nothing but of those ideas. Wherefore, either those ideas are the things themselves, . . . or else they are *not* the things, and then we do not know the things at all.”² Now, the latter alternative can be shown to lead, as Sergeant points out, to absolute scepticism. He confirms this, at length, by his criticism of Locke's view of the intervention of ideas between the mind and the thing; and concludes, “Wherefore Mr. Locke in pursuance of his own principles should not have said that ‘the mind does not know things immediately, but by means of the ideas’; but that it does not know them at all, neither mediately nor immediately.”³

¹ *Op. cit.* Preface, § 24. ² *Op. cit.* p. 30. ³ *Op. cit.* p. 341.

Thus our general conclusion from the dilemma is that if knowledge is to be saved, the former alternative must be accepted. And it can be proved, Sergeant believes, that the "ideal theory" of Locke logically results in the adoption of the former alternative, *i.e.* that *the ideas are the things themselves*. It is necessary for the "ideal theory," he argues, to identify "idea" and "thing." "Being thus at a loss to explicate 'intervention' or to know what it, or the idea or representative serves for, we will reflect next upon the word 'know' which Mr. Locke applies (tho' not so immediately, yet) indifferently, to the thing and to the idea. Now, if this be so, and that *to be known* agrees to them both; then, as the idea is in the mind when it is known, so the thing, when known, should be in the mind too, which is our very position, thought by the ideists so paradoxical, and yet here forcibly admitted by themselves."¹

All this is, of course, very closely akin to the process of argument by which Berkeley reaches the New Principle, and more than once Sergeant almost stumbles upon Berkeley's actual formulation of it.² It is noteworthy also that the term "notion" which

¹ *Op. cit.* pp. 340-341.

² See, for example, *Solid Philosophy*, pp. 32 ff. and 339 ff. And for other points at which Sergeant's attitude to Locke is very similar to Berkeley's, see *op. cit.* p. 265, 318 and 321.

Berkeley would have done well to take to heart one of Sergeant's criticisms of the use of God by Locke and Descartes. "God was brought in at every hard pinch, to act contrary to what the natures of things required; without which, they could not lay their principles, or make their scheme cohere; that is, they would needs make God, as he is the Author and Orderer of Nature, to work either preternaturally or else supernaturally; which is a plain contradiction." (*Epistle Dedicatory, op. cit.*)

later came to play an important part in Berkeley's philosophy is very prominent indeed in Sergeant's *Solid Philosophy*.¹ Whether in any of these points Berkeley directly derived anything from Sergeant must remain a matter of opinion; but, whatever be our judgment, we may at least agree that the striking similarities between them bear a remarkable testimony to the existence at the time of an atmosphere of opposition to Locke in which the development of such a theory as Berkeley's is only what might have been expected.

When compared with the influence exerted upon Berkeley by Locke and this atmosphere of reaction against him, the influence of other thinkers is so slight as to be almost negligible. Almost, but not quite; and, before bringing our account of the origin and early development of Berkeley's thought to a close, we must indicate briefly his relation to the Cartesians, and to the mathematics of the day.

IV. THE INFLUENCE OF CARTESIANISM

If we may judge from the references to Descartes and his followers in the *Commonplace Book*, Berkeley did not make a detailed study of them till the set of his mind was already determined by opposition to Locke; and his references to Descartes are mainly criticisms of those points in which the Cartesians agree with Locke.² Thus, it seems fair to assume

¹ Berkeley's relation to Sergeant's doctrine of "notions" is considered below, Chap. IV. ii., and see also Appendix II.

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that Berkeley criticises them simply because the attitude he had already adopted towards Locke made it essential, if he was to be consistent, that he should oppose them. But in one matter, while he was far from blindly concurring in the Cartesian doctrine, he was certainly profoundly influenced by the followers of Descartes, especially Malebranche. This was the theory of Occasionalism.

The Occasionalism that was made explicit by Geulinex and Malebranche was derived from three fundamental and closely-related doctrines of Descartes, viz. his theory of representative perception, his spiritualism, and his view of the nature of causation.¹ And it is precisely these three doctrines, more especially perhaps in the form which they assumed in Locke, that led to Berkeley's Occasionalism. But his Occasionalism differs from that of Malebranche in an important respect. He carries out more consistently than Malebranche the presuppositions involved in Descartes' fundamental thesis. Descartes had, indeed, recognised, as one of the consequences of his theory of representative perception, that, if matter did not exist, then, so long as sensations were produced in our minds with the same regularity as they actually are, we should still have the same ground for believing in the independent existence of matter as we do have. The intuitive and theological grounds on which Cartesianism posits the existence of an external world have no inherent connection with its metaphysics. Berkeley refuses to accept these irrelevant reasons for the existence of the material world ; and

¹ Cf. Stein in *Archiv f. Gesch. d. Phil.* i. 53 ff.

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on his premisses has no difficulty in showing that, even on Cartesian assumptions, since matter is both imperceptible and inert, it cannot exist. Hence, Berkeley retains in a one-sided form the Cartesian Occasionalism. He insists, and here he is directly following Malebranche, that the only ultimately real causation is creation. Matter being incapable of productive causality, the only real cause is spirit. Spirit as infinite, i.e. God, creates from moment to moment the ideas which we perceive, and spirit as finite, i.e. selves, creates the ideas which they imagine. Each man's world is really his own. He may call his ideas "ideas" or "things," but the essence of Berkeley's view is that they are numerically distinct for each man. Every mind has its separate and private world, which is correlated with the other worlds of other minds by God. From moment to moment God adjusts the several worlds. Berkeley, it is true, does not express his view in this extreme Occasionalist way ; but there is no doubt that, in the *Commonplace Book* at least, this is his doctrine.

Berkeley's other references to Cartesianism in the *Commonplace Book* are mainly criticisms of doctrines which Locke followed, and to which his attitude has already, with reference to Locke, been explained. He criticises Descartes' arguments for the existence of the self and of God, the former on the ground that the proposition *cogito ergo sum* is a ~~redundant~~ tautology,¹ and the latter because the ontological proof is invalid. "Absurd," says Berkeley, "to argue the existence of God from his idea."² This criticism rests on an

¹ i. 44.

² i. 48.

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intentional misrepresentation of Descartes' conception of the meaning of idea.¹ For Descartes idea and conception are synonymous terms, and if his proof be attacked it must be along Kant's lines. Berkeley simply interprets "an idea of God" according to his own terminology as "a perception of God," and he is able to show that we never do have this knowledge of God.

Berkeley points out that his theory is more realistic and less sceptical than Cartesianism. The Cartesians make both primary and secondary qualities dependent on what is particular or contingent. Primary qualities inhere in matter, which is contingent, and secondary qualities depend on the perception of particular selves. Berkeley claims that he is able to secure the equal reality of primary and secondary qualities. Both alike are real, not because they are independent, but inasmuch as they are directly dependent on God, the ultimate reality. Yet while Berkeley holds that the reality of *things* depends on their being referred directly to God, he maintains, against Malebranche, that *actions* owe their reality only ultimately to God, and proximately to finite selves. "We move our legs ourselves."

Yet Malebranche influenced Berkeley more than any other Cartesian. Malebranche had developed Cartesianism by ascribing to God functions of overwhelming importance, functions almost identical with those which Berkeley assigned to God. Malebranche goes much further than Descartes in referring knowledge, from the standpoint of its validity,

¹ Berkeley knew well enough what Descartes meant by "idea." (*Commonplace Book*, i. 52.)

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to God. All knowledge involves knowledge of God. Whenever we think of being at all, the infinite is involved. We can apprehend finite being only as posterior to, and derivative from, infinite being.² We see all things in God; and it is only in God that we can see the truth of things.³ We can know all things in God only because all ideas are in God. God has in himself the ideas of all finite beings,⁴ and finite minds are entirely dependent for their knowledge on God. This is also true of man's practical life. Just as men are entirely dependent on God for their ideas, so in the practical realm their actions are really produced by his activity. "Dieu fait tout en toutes choses."⁵ God is ultimately the only agent as he is the only knower.⁵

So far as knowledge goes, Berkeley follows Malebranche very closely in ascribing everything to God. The constancy and regularity of our knowledge is due to the fact that God has himself the power to create all ideas, and that he graciously wills to create them in a uniform and regular way. All the ideas we perceive are God's ideas: it is because they are God's ideas that they are real. Ideas that are our own, *i.e.* that we can call up at will, are imaginative. But this imaginative knowledge is itself dependent on our perceptual knowledge. Had we not had this real knowledge, we could

¹ *Récherche de la Vérité*, p. 295.

² *Ibid.* p. 298.

³ The chapter in which Malebranche's doctrine on this point is chiefly contained (*Récherche*, III. ii. 6) is entitled "Que nous voyons toutes choses en Dieu."

⁴ "Il est absolument nécessaire que Dieu ait en lui-même les idées de tous les êtres qu'il a créés (p. 295).

⁵ *Ibid.* p. 300.

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I .st have recalled in imagination the ideas which God gave us in perception. But Berkeley differs from Malebranche on the question of our responsibility for our actions. Berkeley insists that in our actions we exercise a real causality. If God were the sole cause of our actions and volitions, our apparent freedom would be the cruellest delusion. Berkeley believes in moral responsibility and moral freedom;¹ and he sees no way of securing them without maintaining the real activity and productivity of finite will. In the whole *Commonplace Book* no other single point receives such reiterated emphasis as this.

Malebranche is ready to admit that though we know all things in God, knowledge may be of different sorts. But, however different these kinds of knowledge are, they are all ultimately mediated by God. Malebranche distinguishes sense-perception, imagination, and pure intellection, as different sorts of knowledge, under God. Berkeley was certainly influenced by Malebranche's elaborate psychological analysis of these different ways in which the mind may apprehend its object; and his account of sense-perception is very similar to Malebranche's, except that Malebranche retains material substance to make impressions, under God, on the sense-organs. (Yet Malebranche admits (*a*) that sense knowledge is possible without impressions caused by material objects, *e.g.* a current of animal spirits may make an impression on the brain; and (*b*) that the only reasons for the existence of material substance are

¹ So does Malebranche. But his definitions of will and liberty did not satisfy Berkeley.

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theological.) Berkeley also follows Malebranche in his analysis of imagination, the only difference being, as I have already pointed out, that while Berkeley assigns a real creative activity to the soul in imagination, Malebranche reserves such activity entirely to God. But to correspond to Malebranche's third and most important type of knowledge, Berkeley has, in the *Commonplace Book*, nothing, and, in his doctrine as a whole, very little. Malebranche believes that by pure understanding or intellection we obtain all our most important knowledge, *e.g.* universal ideas, common notions, and spiritual truths. Such conceptual knowledge Berkeley absolutely refuses to admit in the *Commonplace Book*. But it seems clear from what he says about notions, in the second edition of the *Principles*, that notional knowledge would have comprised as its objects precisely those which Malebranche knows by "entendement pur."

Apart from Malebranche and Locke, Berkeley owed very little, in his early period at least, to any other philosopher. In later life, when he wrote *Alciphron* and *Siris*, references to the thinkers of antiquity are frequent; but in the *Commonplace Book* he is essentially the child of his time, and, as the two philosophers who at that day attracted most attention were Locke and Malebranche, it is naturally of them that Berkeley takes most notice.

Yet in the *Commonplace Book* we do find one or two references to other philosophers. He notices Henry More and Ralph Cudworth, the so-called Cambridge Platonists, once or twice, but in the days of the *Commonplace Book* he had no sympathy for

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What he calls "the lofty and Platonic strain."¹ Their conception of universals annoyed him, for he believed it was tarred with the same brush as Locke's abstract ideas; and once, in reference probably to a fundamental doctrine of Cudworth's *Eternal and Immutable Morality*, he contemptuously ejaculates, "What becomes of the *aeternae veritates*? They vanish."²

On Hobbes and Spinoza also Berkeley passes a few remarks, but these are of no particular importance, for his religious interest seems to have made it impossible for him to feel any sympathy with them. He notes that it is "silly of Hobbes to speak of the will as if it were motion, with which it has no likeness,"³ and that Spinoza "gives an odd account . . . of the original of all universals."⁴ More important is the version of the causal principle which he states in emendation of the ancient axiom—*ex nihilo nihil fit*—which Spinoza approves. "To make this axiom have a positive signification," he says, "one should express it thus: every idea has a cause, *i.e.* is produced by a will."⁵ But neither Hobbes nor Spinoza in any sense formed a "source" of Berkeley's thought. From the way in which he mentions them in the *Commonplace Book*, it would seem that he studied them carefully only *after* the New Principle had been developed in his own mind, and in order to see whether any objections could be advanced from their standpoint against his doctrine. And, as the result of this investigation, he is very well satisfied with his own philosophy. "My doctrines rightly understood, all that philosophy of Epicurus,

¹ i. 83.

² i. 44.

³ i. 52.

⁴ i. 52.

⁵ i. 53.

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Hobbes, Spinoza, etc., which has been a declared enemy of religion, comes to the ground."¹

But if philosophers are rarely mentioned by Berkeley, the names of mathematicians are constantly on his lips; and we must now consider (it is the third line of enquiry which we set before ourselves) the influence exerted on the development of Berkeley's mind by mathematics.

V. MATHEMATICS IN THE COMMONPLACE BOOK

No one who reads the *Commonplace Book* with any care can avoid noticing what a great deal of attention is paid to mathematical questions, and, in particular, how frequently Berkeley refers to Newton and other contemporary mathematicians. At first sight it may seem strange that the mathematicians referred to so greatly outnumber the philosophers; but a little reflection will show that it is perfectly natural.

It is natural that we should find frequent references to mathematicians in the *Commonplace Book* because at the beginning of the eighteenth century mathematics was *the science*. Mathematical work of all kinds had been encouraged in the highest degree by the wonderful results progressively achieved in the previous century and particularly in the past two or three decades. A very brief sketch of the mathematical progress of the preceding seventy-five years will make this clear.

Mathematics was revolutionised in 1637 by Descartes with the invention of the so-called cartesian or analytical geometry. For all the purposes of

¹ i. 52.

much analytical geometry is very much more useful than Euclidean. Euclidean geometry involves special constructions for every separate problem attacked, but analytical geometry proceeds on a few simple rules which are universally true and by subsumption under which any problem may be solved. About the same time as Descartes made this discovery, Cavalieri, an Italian Jesuit, applied the principle of indivisibles, which had previously been used by the astronomer Kepler, to the determination of areas and volumes. His results were attained by a process of summation analogous to that now employed in the integral calculus. The analytical work of Descartes and Cavalieri was extended and systematised by Wallis, Professor of Geometry at Oxford, in a series of important works, extending from 1656 to 1686. These books were much more clearly written than those of his more original predecessors, and they became the standard works on the New Mathematics. Wallis came very near to making the important discovery how to effect the quadrature of the circle, or, in other words, how to determine the value of π . But, until the binomial theorem was invented by Newton, he did not quite succeed.

The next great advance in mathematics was made when the fluxional or differential calculus was invented almost simultaneously and probably independently by Newton and Leibniz. It had always been the great difficulty of mathematics to apply its principles to cases where continuous and gradual changes take place. The properties of mathematical figures bounded by consecutive straight lines had

early been determined, because the changes in the direction of the boundaries are made only at certain points, *i.e.* at the angles of the figure, and these changes of direction can readily be calculated. But in a curvilinear figure the direction of the line which forms its boundary is continuously and gradually changing, and it is exceedingly difficult to calculate the properties of the figure. The work of Descartes, Cavalieri, Wallis and others had made it possible to calculate directions and areas in the case of some curves, but their methods were applicable only to certain kinds of curves. There were, indeed, in Wallis's work, hints of an organised method of dealing with all cases; but it remained for Newton to universalise the method by the invention of the calculus. By means of the calculus it is possible to determine accurately the direction of all curves. The importance of this invention will be recognised when it is remembered that most things in nature change continuously according to regularly operative laws, and that this change can be represented graphically as a curve. Given such a curve, or such a quantity in gradual and continuous change, it is possible by means of the differential calculus to compute the rate of its increase or decrease; and, by the application of the integral calculus, to find from this the original quantity, or the principle of the curve.

These discoveries in mathematics, whose importance was only coming to be fully realised when Berkeley was a student, led to the reconstruction of the science, and rendered possible the further extremely rapid progress of pure mathematics, and its

application to the world of nature in mechanics and physics. When Berkeley was writing the *Common-place Book* much of the important work in the application of mathematical principles had already been done, or was in process of being done, by Newton and his contemporaries.

By the use of the calculus Newton was enabled to unriddle several problems which previous mathematicians had found insoluble, or of which they had given ridiculous or erroneous solutions. A mere enumeration of the departments of applied mathematics which Newton created or extended is enough to indicate the tremendous advance made by mathematics in the few years previous to Berkeley's student-days.

Newton was the first to place dynamics on a sound basis by the application of his new mathematical methods to the determination of fluids and solids; and from dynamics he deduced the theory of statics. Further, he was the creator of the theory of hydrodynamics, and he greatly extended the science of hydrostatics. By the application of mathematics to the mechanics of the solar system he achieved even more remarkable results. He established the law of gravitation, disproved the vortex-theory of Descartes, and created the science of physical astronomy. In optics he made many experiments with spectra, and explained the decomposition of light and the theory of the rainbow.¹

¹ This brief sketch of the development of mathematics in this period is almost entirely derived from the Histories of Mathematics of W. W. R. Ball, M. Cantor, and F. Cajori, and various writings of De Morgan and Brewster on Newton.

And his mathematical principles were also applied by him and his followers in more "practically useful" ways. His astronomical work (combined with the observations of Flamsteed, the Astronomer Royal), and his invention of the sextant did much for the science of navigation. And Sir Christopher Wren made use of some of his mathematical methods in his famous architectural work. In these and many other ways the New Mathematics was being applied in the advancement of science and for the benefit of life.

It is therefore not strange that, in Berkeley's day, mathematics was, as he tells us himself, "the admired darling of the age." And it is fairly clear that the conceptions of mathematics exercised on Berkeley the same sort of influence as the idea of evolution exerted on the philosophy and literature of the second half of the nineteenth century. The place of mathematical and physical science at that time was precisely similar to that occupied 150 years later by biological conceptions. One or two illustrations will perhaps help to give point to the analogy. When Richard Bentley, the great classical scholar, was appointed to give the first course of Boyle lectures on the being of God, he wrote to Newton asking him for instructions how to read the *Principia*, and in his lectures he applied the conceptions of the *Principia*, just as theologians of later days applied the conception of evolution in their apologetics. Again, Locke, in spite of mathematical incapacity, assimilated as best he could the argument of the *Principia*, after having carefully enquired whether the mathematical calculations which he was

unable to follow might safely be accepted. Mathematical conceptions form the warp and woof of the thought of the day ; and Berkeley, like everybody else, was exposed to their influence.

At two points, one of them of central importance in his philosophy, Berkeley attempted to "apply" mathematical conceptions. He applied algebra to the solution of the problems of morality, and thus endeavoured to found an Algebra of Ethics ; and by making use of the recently discovered methods of calculation by signs and symbols, he sought to give an explanation of nature and its laws by means of the relation of sign and thing signified, and thus establish an Algebra of Nature. How far he was successful in the attainment of these objects it will be convenient to consider, not at this point, but in connection with his theory of ethics and his doctrine of causality respectively. It is enough, in the meantime, to bear in mind that in these two theories he is definitely influenced by the mathematical conceptions of his time.

We now proceed to examine how, in Berkeley's mind, so far as it can be discerned in the *Commonplace Book*, his own new principle is related to the new mathematics.

Berkeley very early perceived that his new principle involved difficulties with regard to the nature of mathematics. The new principle implies that lines consist of a finite number of points, that surfaces consist of a finite number of lines, and that solids¹ consist of a finite number of surfaces. Thus

¹ How, it may be asked, on Berkeley's theory of *minima sensibilia*, is it possible for him to maintain the existence of

ultimately all geometrical figures consist of complexes of points, which are regarded by Berkeley as ultimate indivisibles. These indivisibles are *minima sensibilia*, the minutest possible objects of sense. It is impossible that the *minima sensibilia* should be divisible, because in that case we should have something of which our senses could not make us aware ; and that, Berkeley believes, is simply a contradiction.¹

Sensation, then, is the test of all geometrical relations. Thus geometrical equality depends simply on our inability to distinguish in sense-perception. "I can mean nothing by equal lines but lines which it is indifferent whether of them I take, lines in which I observe by my senses no difference."² Berkeley explicitly considers the claims of imagination and pure intellect to judge of geometrical relations ; and summarily rejects their pretensions. Imagination, he holds, is based on sensation, and has no other authority than that of the senses. It has no means of judging, but what it derives from the senses, and, as it is removed by one stage from immediate sense-perception and has its knowledge, as it were, only

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solids ? A solid, on his theory, should consist of a finite number of surfaces, each of which is composed of a finite number of lines, each of which is made up of a finite number of points. A solid, that is, consists in the last resort of *minima sensibilia*. But only the external surfaces of the solid are open to sense-perception. Is every solid, then, nothing but an empty husk ? Mathematical calculation showed Berkeley that that was impossible. Suppose, for instance, a cube, the length of each of its sides being 5 units. Then the volume of the cube may be proved to be $5 \times 5 \times 5$ cubic units. But, if it were merely a husk, it would contain $(5 \times 5) \times 6$ square units. The only way out of the difficulty is to say that God perceives the *minima sensibilia* inside the solid.

¹ i. 86.

² i. 22.

at second-hand, it is, in fact, not so well fitted as sensation to judge and discriminate. Pure intellect, Berkeley continues, has no jurisdiction in mathematics, for it is concerned only with the operations of the mind, and "lines and triangles are not operations of the mind."¹

Now, this view of the nature of geometry is the direct consequence of Berkeley's metaphysical theory, but it is interesting to note that it also connected itself in his mind with the method of indivisibles maintained by the Italian mathematician, Cavalieri.² "All might be demonstrated," he says, "by a new method of indivisibles, easier perhaps and juster than that of Cavalierius."³ What precisely Cavalieri meant by his conception of indivisibles is open to doubt, but it is certain that Berkeley's sympathy would be elicited by his demonstration that quantities are composed of indivisible units, a line being made up of points, a surface of lines, and a volume of surfaces. It is possible, though he is very obscure, that he regarded areas as composed of exceedingly small indivisible atoms of area. Berkeley's conception is clearly very similar to this; but whereas Cavalieri maintained that the number of points in a line is infinite, Berkeley was convinced that no line or surface can contain more than a finite number of points, points for him being *minima sensibilia*.

¹ i. 22 (cf. 14).

² Bonaventura Cavalieri (1598-1647) was the author of *Geometria indivisibilibus continuorum nova quadam ratione promota* (1635), and *Exercitationes geometricae sex* (1647).

³ i. 87.

This, then, is Berkeley's "new method of indivisibles."¹

It will follow that geometry must be conceived to be an applied science. The only pure science will be algebra, for it alone deals with signs in abstraction from concrete things. Geometry may be regarded as an application of algebra and arithmetic to points, *i.e.* the *minima sensibilia* which constitute the whole of concrete existence.² Berkeley admits that it is difficult for us "to imagine a minimum."³ But that is only because we have not been accustomed to take note of it singly. In reading we do not usually notice explicitly each particular letter. But the words and pages *can* be analysed down to these minimal letters. Similarly, though we are not explicitly aware of the *minima sensibilia*, they do exist separately, and may be analysed as indivisibles in the complex sense-datum presented to us in perception. Geometry, then, is an applied science dealing with finite magnitudes composed of indivisible *minima sensibilia*.

If this conception of the nature of geometry be adopted, it immediately follows, as Berkeley very clearly perceived, that most if not all the traditional Euclidean geometry must be rejected. (1) In the first place, on the new theory, not all lines are capable of bisection.⁴ Only those lines which consist of an

¹ Berkeley criticises Barrow's arguments against indivisibles. (*Commonplace Book*, i. 13, 19.) Isaac Barrow (1630-1677), Newton's predecessor at Cambridge, published in 1669 his *Lectiones opticae et geometricae*, which had been revised by Newton, and in 1683 his mathematical lectures were published under the title *Lectiones mathematicae*.

² i. 47.

³ i. 85.

⁴ i. 79, 80.

a line cannot be divided into more than 2 sensibiles parts.

even number of points can be bisected. If the number of points comprising the line be odd, then (supposing bisection to be possible) the line of bisection would need to pass through the central point. But the point is *ex hypothesi* indivisible; hence the line does not admit of bisection. (2) Again, the mathematical doctrine of the incommensurability of the side and the diagonal of the square must be rejected.¹ For since both the side and the diagonal of the square are composed of a finite number of points, the relation between these lines will always be capable of integral numerical expression. Berkeley even makes the general statement, "I say there are no incommensurables, no surds."² (3) It follows that one square can never be double another, for that is possible only on the assumption of incommensurables. And it also follows that the famous Pythagorean theorem (*Euclid*, i. 47) is false.³ (4) Further, it is no longer possible to maintain that a mean proportional may be found between any two given lines. A mean proportional will be possible, on Berkeley's theory, only in the special case where the numbers of the points contained in the two lines will, if multiplied together, produce a square number.⁴ (5) Finally, the important work that had recently been done on the problem of squaring the circle is, in Berkeley's view, quite useless. Any visible or tangible circle, *i.e.* any actually constructed circle, may be squared approximately; and it is therefore time thrown away to invent general methods for the quadrature of all circles.⁵

That his new doctrine necessitated such a clean

¹ i. 60, 78, 79.

² i. 14.

³ i. 19.

⁴ i. 14.

⁵ i. 77.

sweep of important mathematical results, most of which had been accepted for hundreds of years, might well have given pause to an even more confident man than Berkeley; for (to take only one instance), apart from its startling theoretical consequences, serious practical difficulties would arise if some lines should prove incapable of bisection. Berkeley therefore suggests that, for practical purposes, small errors may be neglected. Though we cannot bisect a line consisting of 5 points, we can divide it into two parts, one containing 3 points, the other 2; and, as the *minimum sensibile* is so minute, it makes no practical difference if the two lines are only approximately equal. Berkeley was influenced to make this suggestion by the method of neglecting differences practised in the calculus.¹ If differentials, which are admitted to be something, are overlooked under certain circumstances in the calculus, are we not justified in the new geometry, Berkeley asks, in neglecting everything less than the *minimum sensibile*?² The resulting errors will be so slight that the usefulness of geometry, which it must be remembered is a practical science, will not be impaired.³

It is of peculiar interest to notice that Berkeley

¹ i. 85.

² It might seem that in our approximate bisection of the line we have neglected a whole *minimum sensibile*. But from the point of view of the parts of the line we have not done that. The two parts ought each to contain $2\frac{1}{2}$ points. Now each of the two lines got by our approximate method differs from this by only $\frac{1}{2}$ a point. Hence the error to be neglected in each case is less than a *minimum sensibile*. And this is the condition laid down by Berkeley.

³ *Ct.* i. 78.

was influenced to neglect small errors, and to justify his procedure, by the example of the differential calculus. For, as we shall see in a subsequent chapter, nearly thirty years later he very vigorously attacked, in *The Analyst*, this method of ignoring small errors in the calculus. What a triumph it would have been for his opponents in *The Analyst* controversy if they could have seen the *Commonplace Book*!

But though Berkeley made use of the illegitimate method suggested by the calculus, his attitude to the calculus itself was, from the first, exceedingly critical. And his motive for criticism is not far to seek. If the calculus were sound, then his conception of geometry could not be maintained. For the calculus, whether in the form of Newton's theory of fluxions or Leibniz's method of differentials, rested, Berkeley believed, on the assumption of the existence of infinitely small quantities. Now, if these infinitesimals were admitted to exist, the significance of his *minima sensibilia* would disappear ; and indeed the foundations of his philosophy as a whole would be seriously shaken. For if quantities could be proved to exist which were neither sensible nor imaginable, he would need to revise his theory of knowledge and indeed his entire philosophy. Berkeley thus had every motive for looking with critical eyes on the conception of infinitely small quantities.

In the *Commonplace Book* he says nothing of importance with regard to the use to which infinitesimals are put in the calculus. Though he was critical, his criticism is not very intelligent. But

he was certainly acquainted with a good deal of the work that had been done on fluxions and differentials. His notes contain references, on matters connected with infinitesimals, not only to Newton and Leibniz, but also to Barrow, in whose *Lectiones opticae et geometricae* (1669) Newton's theory of fluxions was first stated ; to Wallis (1616-1703), whose *Arithmetica infinitorum* (1656) paved the way for the invention of the calculus ; to Keill (1671-1721), who, in addition to his *Introductio ad veram physicam* (1702), had written on fluxions in the *Philosophical Transactions* of the Royal Society, and took a prominent part in the famous "Priority Controversy" in which he accused Leibniz of having derived the fundamental ideas of his calculus from Newton ; to Halley (1656-1742), who besides his works on astronomy and magnetism wrote on fluxions in the *Philosophical Transactions* ; to Cheyne (1671-1743), whose *Fluxionum methodus inversa* (1703) and *Philosophical Principles of Natural Religion* (1705) gained for him admission to the Royal Society ; to Joseph Raphson, whose *De spatio reali seu ente infinito* (1697) contained a definition of the infinitely small, and who was later to write a *History of Fluxions* ; and also to two more elementary writers, Hayes (1678-1760), who published in 1704 his *Treatise of Fluxions*, and John Harris, whose *New Short Treatise of Algebra . . . Together with a Specimen of the Nature and Algorithm of Fluxions* (1702) was the first elementary book on fluxions to be published in England. And that he had not confined his reading to English works is proved by his references to *Analyse des Infiniment Petits*, and to the

controversy between Leibniz and Bernhard Nieuwentijt, a Dutch physician and physicist, which took place in 1694-5 in the pages of the Leipzig *Acta Eruditorum*.¹

It is clear, then, that Berkeley was acquainted with much of the work that had been done in the calculus. But when he wrote the *Commonplace Book* he was not in possession of the arguments which subsequently in *The Analyst* he advanced against it.² In the *Commonplace Book* he does not venture any criticism in detail of the use of infinitesimals in the calculus.³ What he is concerned to do there is to prove that infinitesimals have no real existence at all.

The conception of the infinitesimal rests, Berkeley believes, on the supposition that extension is infinitely divisible. And mathematicians who maintain the doctrine of divisibility *ad infinitum* commit, in his estimation, three serious errors.

"1. They suppose extension to exist without the mind, or not perceived.

2. They suppose that we have an idea of length without breadth, or that length without breadth does exist, "or rather," as Berkeley says in the margin, "that invisible length does exist."

3. That unity is divisible *ad infinitum*."⁴

¹ The last-mentioned references are made not in the *Commonplace Book*, but in the contemporary essay, "Of Infinites" (*Works*, iii. 411).

² Some of his remarks show that he was at this time far from understanding its principles and methods. (Cf. *Commonplace Book*, i. 84, 85.)

³ There is some criticism of the calculus itself in the essay "Of Infinites" (*Works*, iii. 411). And cf. *Commonplace Book*, i. 83-86.

⁴ i. 86

It will be noticed that, with the exception of the third,¹ these are faults only on Berkeley's own metaphysical theory.

He now makes his criticism "more homely"—a favourite phrase of his—and maintains that infinitesimals are wholly inconceivable. The line of argument is indicated twice over,² and is again based on his own metaphysic. For the purposes of his proof he posits two axioms: (I) "No word to be used without an idea," and (II) "No reasoning about things whereof we have no idea."³ Now, we have no idea, Berkeley says, of an infinitesimal. By this he means, according to his terminology, that infinitesimals cannot be either objects of sense-perception or objects of representation in imagination. Hence, as we have no idea of an infinitesimal, it is simply a word. Further, according to axiom I, it is a word which means nothing; and, according to axiom II, we have no right to use it in our calculations.⁴

The general principle that infinite divisibility is

¹ A word of explanation on the third point. Berkeley proves that it is an error as follows. It assumes that the integer 1 is infinitely divisible, i.e. divisible into an infinite number of parts. But, says Berkeley, that which has an infinite number of parts must itself be infinite. Hence the integer 1 must be infinite; or, in other words, unity and infinity are identical. But that is absurd. Hence the original proposition must be false. We conclude, then, that unity is not infinitely divisible. (*Commonplace Book*, i. 87 and 89.)

² i. 87 and 89.

³ This axiom is clearly inconsistent with Berkeley's theory of algebra. In algebra we reason on signs of which we have no idea.

⁴ Berkeley's own views on infinity were very vague. Thus he sometimes uses *ad infinitum* and *ad indefinitum* as though they were synonymous. (*Commonplace Book*, i. 67, 78.)

a fiction is applied by Berkeley to the two special relations of space and time. He holds that time is not infinitely divisible, because "time is the train of ideas succeeding each other." Since time is simply this series of particular indivisible ideas, it is not infinitely divisible, for, however far you may divide it, you come eventually to unitary ideas incapable of further division.

The same argument applies to the doctrine of the infinite divisibility of space. Since, on his theory, space consists simply of a compages of co-existent ideas, the process of division, however far it be carried, will eventually be checked by the indivisibility of the simple ideas of which it is composed. The doctrine of the infinite divisibility of extension rests, Berkeley thinks, on the mistaken belief that extension has real external existence. "The latter is false," he says, "ergo ye former also."¹ Extension, then, is not infinitely divisible. Further, it is not infinitely extended. "Our idea we call extension neither way capable of infinity, i.e. neither infinitely small or great."² No extended object can exist smaller than the *minimum sensibile*, and no extended object can exist larger than we can picture in imagination. This is Berkeley's theory.

We have now considered, in outline, Berkeley's attitude, as revealed in the *Commonplace Book*, to contemporary mathematical problems. His willingness to throw overboard the solid achievements of the established geometry simply because they did not accord with an *aperçu* of his own does not encourage us to rate his mathematical ability very

¹ i. 59.

² i. 63.

highly.¹ Or perhaps it would be truer to say that when he wrote the *Commonplace Book* he had not had time to steady his outlook upon science and the world; and allowance may fairly be made for his youthful dreams of a New Idea which was destined to revolutionise the sciences, when we remember that it was only about seventy-three years since Galileo expounded the Copernican theory and thus changed entirely the orientation of astronomy, and indeed of science as a whole. Another "Copernican change," Berkeley believed, was not an impossibility; and, in any case, he was inclined to think that the wonderful mathematical renaissance of the previous few decades had, among all its triumphs, grown not a few excrescences and callosities, which it would do no harm to pare off. And it was his boast that his theory would simplify the sciences and abridge the labour of study.

Is it possible for us, gathering up the strands of our long investigation of the early development of Berkeley's thought, to estimate concisely the philosophical position of the *Commonplace Book*? If it can be summed up in a single word, that word is Particularism. In every department of knowledge

¹ Berkeley makes a good many foolish and supercilious remarks on mathematics and mathematicians in the *Commonplace Book*. This is especially the case in regard to Newton. Such entries as "Newton begs his principles: I demonstrate mine," and "Newton's harangue amounts to no more than that gravity is proportional to gravity" read strangely in comparison with the contemporary estimates of men who were better qualified than he to judge of the value of Newton's work. Cf., e.g., Halley's "Nec fas est proprius mortali attingere divos," and de l'Hôpital's almost serious question whether Newton ate, drank, and slept.

which Berkeley touches his emphasis is laid on the particular.

The universe consists of particular persons, each with innumerable particular ideas or sensations. These groups of particular ideas form the particular worlds in which particular persons live. The worlds are private and particular, and Berkeley is forced to introduce God to correlate them, in order to make knowledge and social life possible. Hence his occasionalism, which means the continual correlation of particulars, his view of time as a succession of particular instants differing for each particular being in whose experience it exists, and his theory of space as not merely private to each particular person, but private to each particular sense.

His theory of knowledge also is frankly particularist. The particular ideas which constitute the experience of each particular person may be aggregated in various ways, but they never form a universal : they always remain a bundle of particulars. Reasoning is carried on by particular words, which, though general in their signification, still remain particular words. And the syllogism is either a tautology or a paradox.

This particularism is obtrusive in his mathematics. Lines consist of particular points, surfaces of particular lines, and solids of particular surfaces. Infinity is impossible, because the infinite can never be made up of particulars, however many we take ; and, for the same reason, a true theory of continuity is excluded.

Everywhere the particular and concrete is emphasised ; everywhere the general and abstract is

depreciated or denied. Almost every philosophical term which connotes a tendency to particularism may be predicated of the Berkeley of this early period. Sensationalist, atomist, empiricist, singularist, phenomenalist, solipsist, occasionalist—all these may be applied with greater or less truth to the writer of the *Commonplace Book*. But suggestions of a more adequate view are, as we have seen, to be found even in the *Commonplace Book*. The development of his philosophy was to involve a gradually deepening realisation of the importance of the universal, both in knowledge and in reality. That evolution of thought will be traced in subsequent chapters.

CHAPTER III

THE PSYCHOLOGY OF VISION

BERKELEY'S method, as we have seen, is psychological. Psychology forms the basis of his work. And apart from his general psychological interest and attitude, he introduces into his writings from time to time much special psychology, inextricably interwoven with metaphysics, theory of knowledge, and philosophy of religion. It would be an almost impossible task, and not a very profitable one, to try to isolate completely Berkeley's psychology. That task will not be attempted in this chapter. The chapter will be confined to a statement and examination of Berkeley's theory of vision, perhaps the most original of all his work, and certainly his most solid contribution to psychology.

Berkeley's theory of perception is strictly psychological. This is worth noting, for it was the first strictly psychological theory of visual perception ever advanced. Berkeley's significance for psychology rests largely on the fact that he was one of the first thinkers to suggest the modern view of psychology as the positive science of individual experience. His treatment of the special problem with which we are now concerned differs both from

Aristotelian and Scholastic physiological doctrines on the one hand, and from the mathematical theories of the Cartesians on the other.

Instead of criticising in detail the Scholastic method of dealing with the problem, Berkeley simply rules it out of court as irrelevant. The problem of vision, he says, is a psychological one, and physiological considerations do not require to be taken into account. Berkeley's protest against Scholastic physiological psychology is not only perfectly justified on his own philosophical premisses, but is also notable as the first demand in the history of philosophy that psychological questions should be treated as psychology, and should not be solved by referring them to physiology. In spite of Berkeley, physiological psychology has returned in a new form; and while most psychologists would now admit that a psychological theory of vision must take into account the physiology of the eye, Berkeley's attitude is still valuable as a protest against the tendency, still too prevalent, to suppose that a physiological explanation is necessarily psychologically adequate.

Against the geometrical optics, which Cartesianism had been developing, Berkeley brings a special criticism, which is quite unanswerable. The Cartesians maintained that we perceive distance by means of the angle formed by the concurrence on the object perceived of two imaginary lines extending from the eye to the object. The greater the angle subtended, the less is the distance of the object from the eye. Thus we perceive varying distances by means of the varying angles. Now the fatal defect

of this theory, Berkeley argues, is precisely its mathematical demonstrability. It could be proved, so that even the blind would have to admit it. This fact proves its inadequacy as a theory of *vision*. For if the born-blind are as capable of understanding a theory of vision as those who actually have the experience of sight, the theory must have abstracted from the real facts of vision, because these are facts which must remain forever unknown to the born-blind. Thus since the born-blind can understand this mathematical science of optics, it must, as an account and interpretation of the actual facts of vision, be either false or inadequate.¹

Another vital criticism is advanced by Berkeley. It applies equally to the physiological psychology and the geometrical optics of the day. Berkeley insists that the problem of vision is a problem solely of vision; and thus tactual data are strictly irrelevant to its solution. Berkeley has much to say, as we shall see below, on the relation of visual and tactual sensations. But these tactual sensations are concerned not with vision pure and simple, but with inferences. The physiological and geometrical sciences of optics, with which Berkeley was familiar, depended on tactual data; and therefore in Berkeley's opinion, whatever else they might be, they were not really sciences of optics, which must be concerned solely with vision.

Leaving aside all physiological and geometrical considerations, Berkeley attempts to construct a theory of the perception of distance and magnitude, based solely on the data of vision. He takes into

¹ *New Theory of Vision*, i. 146.

account only "the proper and peculiar facts of sight—the facts, the whole facts, and nothing but the facts of that particular and isolated sense."¹ In dealing with these facts, Berkeley's method is definitely empirical and introspective. Here again he differs from both Scholasticism and Cartesianism. He states the results he has himself obtained by examining his own visual experience, and he appeals to others whether the result of their introspection does not confirm his conclusions.² Berkeley's task is thus an introspective examination of the facts of vision. But he restricts the immediate area of his enquiry to two particular problems, (i) "the manner wherein we perceive by sight the distance, magnitude, and situation of objects"; and (ii) "the difference there is betwixt the ideas of sight and touch, and whether there be any idea common to both senses."³ It is perhaps worth while to have made quite clear what Berkeley's problem really is, for much of the criticism directed against his theory arises from a misapprehension of the exact scope of his enquiry.

Berkeley begins by stating two points, which are "agreed by all," and which form the assumptions on which his own theory is built. The first of these is that distance is by itself invisible. Distance is a line directed endwise to the eye, and whatever the length of the line, *i.e.* whatever the distance, only an invisible point, which remains always the same, is projected on the retina. It is also generally agreed that the distance of "considerably remote" objects is not immediately perceived by sense, but is judged

¹ Ferrier: *Philosophical Remains*, ii. 325.

² *New Theory of Vision*, i. 130, 133, 148, 152. ³ *Ibid.* i. 127.

or estimated on the basis of past experience. With both these accepted views Berkeley thoroughly agrees. His own contribution consists in extending the accepted theory with regard to the perception of the distance of considerably remote objects to objects near at hand. To account for the perception of near distance contemporary optics had suggested a theory which Berkeley considered entirely false. Berkeley therefore criticises this theory, and substitutes for it an extension of the accepted theory of the perception of remote distance. It has sometimes been assumed by Berkeley's disciples as well as by his critics that the theory that distance is not immediately perceived but is suggested by experience is Berkeley's great discovery. He has then been criticised for merely stating it, without any attempt at proof.¹ But the fact is, as Berkeley himself explicitly points out, that he simply takes over the theory from contemporary speculation. He does not attempt to prove it, partly because it was a commonplace of contemporary psychology, and partly because he regards it as self-evident.²

Both points, (a) that distance is invisible, and (b) that magnitude is suggested rather than perceived, are to be found in Malebranche. But Malebranche also holds the theory which Berkeley

¹ Cf. S. Bailey: *A Review of Berkeley's Theory of Vision*, and T. K. Abbott: *Sight and Touch*.

² A strong argument that it is logically impossible to perceive distance by sight has been advanced by Ferrier (*Philosophical Remains*, ii. 330 *sqq.*) and Lipps (*Psychologische Studien*, 69 *sqq.*). They maintain that a visible distance must be between visible termini. In the case of the distance of an object from the eye, one of the termini is the eye itself, which is not seen. Thus distance cannot be seen.

attacks—that the distance of near objects is perceived by a system of lines and angles.¹ For the rest, Berkeley certainly owes a good deal to the French Father. Malebranche gives an account of the six kinds of signs by which we learn to estimate the distance of remote objects, and the most important of these are also mentioned by Berkeley. Berkeley extends Malebranche's theory of the perception of remote distance to the perception of *all* distance. And with regard also to the perception of magnitude, Berkeley's theory owes much to Malebranche. Malebranche points out that real magnitude is not immediately perceived, but is, like distance, estimated or inferred.² Every sense-perception, according to Malebranche, involves judgment. Bare sensations require to be interpreted and only with the help of certain natural judgments can they become significant parts of our mental experience. It would have been well for Berkeley's theory if he had appreciated as keenly as Malebranche the importance of the element of judgment or estimate. On the other hand, Berkeley improves on Malebranche by taking into account the relation of tactful and visual sensations, in the determination of distance and magnitude. Malebranche almost completely ignores the importance of tactful sensations. Berkeley very probably thought that his recognition of tactful experience as a main determinant of our knowledge of distance and magnitude rendered superfluous Malebranche's elaborate system of natural judgments.

¹ *Récherche de la Vérité*, i. ix. 3.

² Cf. *Réponse à M. Régis*, i. § 1-3.

It is clear from the *Commonplace Book* that no other thinker influenced Berkeley's theory of vision so much as Malebranche. The same two points on which Berkeley was specially indebted to Malebranche appear also in Molyneux and Locke. In almost the same words as Berkeley subsequently used, Molyneux says, "Distance of itself is not to be perceived; for 'tis a line (or length) presented in our eye with its end towards us, which must therefore be only a point, and that is invisible. . . . In plain vision the estimate we make of the distance of objects . . . is rather the act of our judgment than of sense."¹ But Molyneux still believes the traditional view of the perception of near objects. The importance of the question of the relation of tactful and visual sensations may well have been suggested to Berkeley by the problem proposed by Molyneux, which Locke discusses in the second edition of the *Essay*. The problem is this. Suppose a born-blind man has been taught to distinguish by touch a cube and a sphere. If he were then made to see, would he at first be able by sight to distinguish between a sphere and cube standing on a table out of his reach? Both Molyneux and Locke answer in the negative.² The born-blind man would have to learn by experience which object previously known by tactful experience is referred to by each set of visual sensations. The connection between tactful sensations and visual sensations involved in

¹ *Treatise of Dioptrics*, i. § 31.

² *Essay*, ii. xi. 8. The passage is quoted by Berkeley in the *New Theory of Vision* (i. 193), where he somewhat disingenuously regards it as "a confirmation of our tenet."

our sense-knowledge of the same object is wholly empirical. This is precisely Berkeley's view.

On the whole, then, while claiming for Berkeley real originality, we do not suggest that he discovered any previously unknown truth. It would be more correct to say that he sought to make the traditional view, purged of all its physiological and geometrical excrescences, self-consistent. The traditional view was inconsistent in drawing a distinction between near and remote distance, and in giving different explanations of our perception of these kinds of distance. Berkeley maintains that there is only one kind of distance, and only one explanation of our awareness of it.

We may now proceed to state and examine Berkeley's theory in some detail. Berkeley maintains that our awareness of distance is an inference from experience. It is not immediately perceived, but is suggested to the mind by some other idea or sensation. We know by experience that when we look at any object with the two eyes, we alter the relative position of the eyes, according as the object approaches or recedes from us. The turning of the eyes is accompanied by certain sensations, and these sensations are connected in experience with, and come to suggest, greater or less distance. The connection between these muscular sensations and objects is purely empirical, customary, and arbitrary. "Because the mind has by constant experience found the different sensations corresponding to the different dispositions of the eyes to be attended each with a different degree of distance in the object, there has grown an habitual or customary connection

between those two sorts of ideas.”¹ Berkeley also mentions two other marks or signs of distance. (a) If objects are very close to the eye, our vision of them is confused; and the confusion increases as the distance decreases. (b) But this confused appearance may for some time be prevented by straining the eye. In such a case, the sensation of strain is connected empirically, in the same way as the confused appearance, with the distance of the object.²

Berkeley is at special pains to point out that the connection between these sensations and the distances of objects is entirely arbitrary. They are connected not by any necessary tie, but solely by association. None of the *signs* of distance have, in their own nature or necessarily, any relation or connection with it. From constant experience of the coexistence of sign and distance signified, we come to infer from a given collocation of signs a certain distance. “That one idea may suggest another to the mind, it will suffice that they have been observed to go together, without any demonstration of the *necessity* of their coexistence.”³

¹ *New Theory of Vision*, i. 132.

² Berkeley states (i. 135) that this list of visual signs does not pretend to be an exhaustive enumeration. Other marks had been mentioned by his predecessors, e.g., Malebranche, who mentions the size, force, definiteness, and distinctness of the retinal image, and the number and kind of the intermediate objects (*Récherche de la Vérité*, i. ix. 3). But it was not Berkeley's purpose to give a complete list of visual signs, such as has been given by Helmholtz. His aim was directed to show that, whatever visual signs there might be, the connection between them and objects could not be other than empirical and arbitrary. To attain this result he considered a perfect induction unnecessary.

³ *New Theory of Vision*, i. 134.

Thus, since in our experience the more confused the sensation the less the distance, a sensation of confusion no sooner occurs but it suggests the distance which in previous experience has been found to coexist with it. If it had been our experience, or (what is the same thing) if it had been the course of nature, that the more confused the sensation the greater the distance, then the same series of sensations which make us think that an object is approaching would then lead us to suppose that it was receding.¹ The connection is purely empirical and arbitrary.

The proof that distance is not immediately perceived, but is suggested by various signs, though Berkeley hints at it in § 18, is not explicitly stated by him. But as Mill has shown, “the evidence of the doctrine is of that positive and irrefragable character which cannot often be obtained in psychology; it amounts to a complete induction.”² The actual arguments which Berkeley suggests are those afterwards named by Mill the methods of Agreement, Difference, and Concomitant Variations. When a certain sign is present, a certain distance is indicated; when the sign is absent, the distance cannot be inferred; and every change in the distance is proportionate to the alteration in the signs. From these arguments Mill would infer a causal relation between distance and sign. But Berkeley does not, in the *New Theory of Vision*, go beyond the assertion of uniform coexistence, though later, e.g. in the *Theory of Vision Vindicated*, he shows that this

¹ *New Theory of Vision*, i. 134.

² *Dissertations and Discussions*, iv. 160.

empirical connection, though arbitrary, is not capricious, but depends on the will of God, and is thus in Berkeley's sense a causal relation.

Having shown that all perception of distance is an inference from experience, Berkeley proceeds to prove that the only things directly perceived are colours. It was generally agreed in contemporary speculation that colour is immediately perceived, but Berkeley goes further and holds that nothing but colour is immediately perceived.¹ Thus the real magnitude and situation of objects is as imperceptible as their distance. By the "distance" of an object we mean the distance of the object from the eye. "Situation" depends on the distance of one object from another, and "magnitude" on the distance of the parts of an object from one another. In every case the conception of distance is involved, and in every case sight properly supplies only colour. Colours appear in certain arrangements which are called apparent figure, apparent position, and apparent magnitude. Now apparent figure, apparent position, and apparent magnitude have existence in two dimensions only. They have length and breadth but no depth, for in immediate perception we perceive only coloured plane surfaces. One difference between distance from the eye and distance in a plane surface may be noted. The former kind of distance is entirely imperceptible, because every distance projects only a single point on the retina. But lateral or transverse distance, *i.e.* distance between two objects in a plane, projects a line on the retina. This line on the retina is immediately

¹ *New Theory of Vision*, i. 146.

perceived, but is perceived only as an *apparent* distance. The *real* distance must be estimated or inferred. In immediate visual experience we perceive only colour. All else is an inference from *other* experience.¹

Before examining the nature of this *other* experience, we may notice a question of importance in its relation to Berkeley's general metaphysical theory. When Berkeley says that distance or outness is not immediately perceived by sight, does he mean that we are unable to perceive visible objects as external at all, or that, while we can and do perceive that objects are external, *i.e.* at some distance from the eye, we are incapable of perceiving their relative distance from it and from one another? One of Berkeley's critics (Bailey) has said, "Whether objects are seen to be external or at some distance, is one question entirely distinct from the enquiry—whether objects are seen by the unassisted vision

¹ James, among others, maintains that distance is immediately perceived. He denies the Berkeleyan hypothesis, and though he holds that its logical arguments are irrefragable, he holds that its introspective analysis is mistaken. "The feeling of depth or distance, of farness or awainess, does actually exist as a fact of our visual sensibility" (*The Perception of Space*, *Mind*, 1887, p. 330). James maintains that all sensations are voluminous, and that a sensation of depth or distance is as immediate as one of the other two dimensions. But James's introspective account of sensation comes perilously near to committing the fallacy which he himself christened the psychologist's. He examines his own experience, and because he finds in that experience what appears to be a sensation of depth, he assumes that distance is immediately and originally perceived. Even if James's introspective result be strictly accurate, the proper inference from it is not that distance is immediately and originally perceived, but only that in our developed experience it seems to be sensed, though it may really only be estimated and inferred from a collocation of previous visual and tactual sensations.

to be at *different* distances from the percipient." Bailey then attacks Berkeley on the ground that he uniformly assumes these problems to be the same, or at least takes it for granted that they are to be determined by the same arguments. Now Berkeley does not assume the questions to be the same, and he distinctly points out that the immediate objects of vision are not external. They are at no distance from the eye.¹

But in Ferrier's statement that the theory of vision is an "idealism of the eye"² there lurks a *suggestio falsi* which comes forth naked and unashamed in Abbott's words, "There is indeed only one dogmatic system consistent with the Berkeleian theory of vision, and that is Berkeleian idealism."³ This is not so. The theory of visual perception rests on its own evidence, and, while Berkeley could and did regard it as an anticipation of his metaphysical doctrine, it has in point of fact been accepted, and quite consistently, by most subsequent philosophers, however much their metaphysical positions might differ from his.

Berkeley himself supplies the best proof that the theory of vision does not necessarily imply immaterialism, by his explanation of tactual experience. He everywhere speaks as though touch bears witness to an external non-mental reality.⁴ It is from this

¹ *New Theory of Vision*, i. 150, 152.

² *Philosophical Remains*, ii. 324.

³ *Sight and Touch*, iii.

⁴ It is clear from the *Commonplace Book* that when Berkeley wrote the *New Theory of Vision* he had already exorcitated his thoroughgoing immaterialism. Berkeley tells us also that he used the old terminology in dealing with touch in the *New Theory*

tactual experience, taken in conjunction with the various visual signs, that we are able to infer the *real* magnitude, distance, position and size of objects. Tactual experience is the *other* experience, to which we referred a moment or two ago, that is necessary to our cognition of objects. Tactual sensations become connected in our experience with visual sensations, and the visual sensation becomes the sign of the tactual sensation, so that on every occurrence of certain visual sensations we infer that under certain conditions certain tactual sensations will ensue. "Having of a long time experienced certain ideas perceptible by touch—as distance, tangible figure, and solidity—to have been connected with certain ideas of sight, I do, upon perceiving these ideas of sight, forthwith conclude what tangible ideas are, by the wonted ordinary course of nature, like to follow. Looking at an object, I perceive a certain visible figure and colour, with some degree of faintness and other circumstances, which, from what I have formerly observed, determine me to think that if I advance forward so many paces, miles, etc., I shall be affected with such and such ideas of touch. So that in truth and strictness of speech, I neither see distance itself, nor anything that I take to be at a distance. . . . And I believe whoever will look narrowly into his own thoughts, will agree with me, that what he sees only *suggests* to his understanding that, after having passed a certain distance, to be measured by the motion of his body, which is

of Vision, in order to attempt, by insinuating his views gradually, to win for them a more favourable reception than they were likely to obtain, if they appeared too paradoxical.

perceivable by touch, he shall come to perceive such and such tangible ideas, which have been usually connected with such and such visible ideas."¹ Berkeley points out that two kinds of objects are apprehended by the eye. One sort consists of colours, and is immediately and primarily perceived. The other kind comprises tangible qualities which are secondarily suggested by the former kind. It may seem strange, Berkeley adds, that in ordinary experience we never discriminate between the two sorts of objects; and further, that those objects which by reflection we know to be suggested and not immediately perceived are usually those which make the greatest impression on us. The difficulty may be explained, according to Berkeley, by the analogy of language. The words of a familiar language are not themselves deliberately attended to: the ideas which the words, as signs, suggest make an impression on us, though the mere words rarely do. Again, an unreflective mind does not explicitly differentiate words and ideas. At a low level of mental development a man no more distinguishes them than he does visible and tangible qualities.

Nevertheless, the difficulty is a real one, and Berkeley's critics are right in expressing their dissatisfaction with his explanation. The strongest objection advanced is that Berkeley's explanation does not account for the fact that the tactful experiences, which according to him are suggested by visual experiences, are not, as we might expect, clear-cut and definite, but vague and uncertain. If, it may be asked, objects seen at a distance consist

¹ *New Theory of Vision*, i. 148. Italics mine.

simply of tactful sensations suggested by visual sensations, how is it that our recollection of tactful sensations is so indefinite? If visual sensations are mere signs, which the mind rapidly glides over, and hastens to the tactful sensations with which they are connected, we ought to be distinctly aware of the tactful sensations thus suggested. But introspection assures us that when we look at objects we have the greatest difficulty in recalling tactful sensations. Instead of being bright and lively, they are dull and shadowy. Taking these considerations into account, some of Berkeley's critics, e.g. Bailey, maintain that while we do not perceive distant objects immediately, we estimate their magnitude and distance, not by inferring tactful impressions from visual, but by comparing original visual impressions of distance with *other* visual impressions otherwise received.

The problem which these critics raise is a real one, and it is impossible to give a satisfactory solution of it without admitting that on one vital point Berkeley made a serious mistake. The explanation of the difficulty depends on the general nature of the relation of sign and thing signified.¹ In the first place, signs are not noticed so much as the things they signify. But, in the second place (and this is the point of special importance in connection with Bailey's objection), the thing signified may be represented to the mind in the vaguest possible way. To take Berkeley's analogy of language, while it is true that words are not generally themselves attended to,

¹ Locke approached very near to giving this explanation, *Essay*, ii. ix. 8.

but only the things or ideas which they signify, it is also true that the ideas or things signified are not represented to the mind *in toto*. The name of the thing recalls usually only one or two significant elements in the thing, not the thing with all its details. Now, this analogy is exactly applicable to the relation between visual and tactual sensations. Visual sensations, through long experience, come to suggest tactual sensations so directly and so rapidly that the tactual sensations in their turn become only signs, from which the mind runs on to the identical thing, of which the visual and tactual sensations alike supply only partial appearances. This is what Berkeley would not admit. For him, tangible extension is not a sign of anything else : it is the thing signified, and nothing but this. But if Berkeley's view be correct, it seems impossible to account for the vagueness of tactual sensations. On the other hand, if we admit that tactual sensations are both things signified and, in turn, the signs of the real extension, it becomes possible to see how the mind may run rapidly on from the sign to the thing signified, and then, without paying special attention to this signified thing, but regarding it in turn merely as a sign of something else, may proceed to anything else that it does suggest.

We have already seen that the same arguments that apply to distance hold also of magnitude and lateral distance, but Berkeley has still to show that the visual signs which suggest magnitude do so as immediately as they suggest distance. According to the geometrical optics of Berkeley's day, the magnitude of an object is estimated by its distance

from the eye. The distance of an object from the eye is first found, and then mediately its magnitude. But Berkeley maintains that visual ideas "have as close and immediate a connection with the magnitude as with the distance ; and suggest magnitude as independently of distance as they do distance independently of magnitude."¹ At first sight, this view would seem to be difficult to uphold. It might be pointed out that our estimate of the real magnitude of an object must depend on our knowledge of the distance of the object. We estimate the size of the moon from the distance at which it is. Because we know the sun's distance from us to be greater than the moon's, we judge that though the visual appearances in the two cases represent closely similar apparent extensions, yet the real magnitudes are very different. Now all this is perfectly true. But it is also true that we can, and do, estimate distance from magnitude. From previous experience we have formed a conception of the visual magnitude of a man. When we see a man at a distance, we judge his distance from us by comparing the actually seen magnitude with that which we know him to possess. Berkeley's doctrine is perfectly sound. We may infer distance from magnitude, or magnitude from distance. But we do not necessarily infer either from the other.

But in connection with magnitude a problem arises, which does not vex the discussion of distance. Distance is not perceived at all, only inferred. But magnitude is both perceived and inferred. Thus we have only one kind of distance, but two kinds (or,

¹ *New Theory of Vision*, i. 152.

as will be shown later, three kinds), of magnitude. There is visible magnitude and tangible magnitude. But magnitude may be distinguished in another way, as apparent or real. Now Berkeley has no hesitation in identifying apparent with visible magnitude, and real with tangible magnitude. Thus for him, there are only two kinds of magnitude, (i) visible or apparent, and (ii) tangible or real. Visible magnitude cannot be real, for it changes as the object approaches or recedes from the eye. On the other hand, tangible magnitude remains invariably the same, and thus when we speak of the magnitude of anything, "we must mean the tangible magnitude."¹

Berkeley uniformly insists on the difference between tangible and visible magnitude. "It is plain there is no one self-same numerical extension, perceived both by sight and touch."² Thus, (a) tangible and visible extension are numerically different. And, (b) they are also qualitatively distinct. Not only is there no one idea common to both senses, but there is not even one kind of idea common to both. Extension, figure, and motion as perceived by sight differ and differ generically from extension, figure, and motion as perceived by touch. Three main arguments in support of this thesis are stated by Berkeley.³ (i) We are apt to confuse visual with tactal sensations, partly because we have grown up to awareness of both simultane-

¹ *New Theory of Vision*, i. 153.

² *Ibid.* i. 186.

³ Berkeley also mentions (§ 132) in corroboration of his doctrine Locke's solution of Molyneux's problem of the born-blind man with the cube and the sphere. (*Locke's Essay*, II. ii. 8.) Cf. *supra*, p. 100.

ously, and partly because we have always given them the same name. But a man born blind would not, on receiving his sight, identify his visual sensations of an object with his previously acquired tactal sensations. He would require to be taught to refer the two kinds of sensations to the same object.¹ (ii) It is impossible that visible and tangible extension should be the same, because the only immediately perceptible objects of sight are colours, and these cannot be perceived by touch. Thus no object can be immediately perceived by *both* senses. (iii) It is a geometrical axiom that "quantities of the same kind may be added together to make one entire sum." We can add lines together, or solids together; but a line cannot be added to a solid. So, says Berkeley, we can add tangible extension to tangible extension, or visible extension to visible extension; but the

¹ In corroboration of his thesis Berkeley is fond of referring to the first visual experience of the born-blind man made to see. (§§ 41, 42, 79, 92-99, 103, 106, 110, 128, 132-137.) And in the appendix (added in the second edition) he refers to the case of William Jones, a born-blind man restored to sight at the age of twenty. (An account of this case is to be found in the *Tatler* of August 16, 1709.) Very little fresh evidence on the point has come to light. The most important is Cheselden's case (*Philosophical Transactions*, 1728), which has usually been regarded as confirmatory of Berkeley's theory, though Hamilton (Reid's *Works*, i. 137n) and Abbott (*Sight and Touch*, 145-148) think otherwise. Descriptions of a few other cases are to be seen in the *Philosophical Transactions* for 1801, 1807, 1826 and 1841. An interesting recent case of successful operation on a born-blind man, which seems to support the Berkeleian view, is described by Prof. Latta in the *British Journal of Psychology*, i. 135. (But cf. T. K. Abbott in *Mind*, N.S. xiii. 543.) Inferences have also been drawn from the first experiences of infants and the young of animals. But in no case have these inferences been made on sufficient data. They therefore do not justify any confidence in their evidence.

addition of visible to tangible extension is as impossible as the addition of a line to a solid.

Berkeley is so anxious to insist on the difference between visible and tangible extension, that he entirely overlooks the problem of their unity. For Berkeley visible and tangible extension are entirely distinct, and the only connection between them is the arbitrary tie of their happening always to coexist. But this is really only the statement of the problem, and not its solution. The modern psychologist agrees with Berkeley that "the relation between *Ev*, the extension of visible sensation, and *Et*, the extension of tactual sensation, apart from the general similarity which is implied in applying the word extension to both, consists merely in their regular empirical conjunction in certain successive and simultaneous combinations."¹

But such a view hardly does justice to the fact that there is one extension which is referred to equally by tactual sensations and visual sensations. Berkeley could not give any adequate account of the unity of extension, because he did not distinguish between our sensations and the sensible qualities of objects. For him, the term "idea" covers both sensible quality and the sensation. Now, we may point out that while visual and tactual sensations are entirely different, yet the visible and tangible qualities of objects have a real unity. They seem at least to be spatially coincident. This would have been denied *in toto* by Berkeley. In the first place, he would have denied the possibility of separating

¹ G. F. Stout, *Some Fundamental Points in the Theory of Knowledge*, p. 29.

the mental sensation from the non-mental quality. In the second place, he would not have admitted any spatial identification of visible and tangible ideas. So far as the *New Theory of Vision* goes, tangible ideas may be spatially extended, but visible ideas, *i.e.* colours, can be only "in the mind."

Berkeley identifies tangible with real extension. This is a mistake. As we have seen, he regards visible extension as apparent, and tangible extension as real. Apparent or visible extension merely suggests or signifies real or tangible extension. As against Berkeley we must maintain that (a) real extension is other than tangible extension, and that (b) tangible extension, equally with visible extension, is a sign of real extension, which is not immediately perceived, but constructed out of the data supplied by sight and touch, plus a judgment or estimate of the circumstances, conditions, and relations in which the extension is apprehended. Thus we may say that $E = x \begin{cases} ev \\ et \end{cases}$ where *E* stands for the real extension, *ev* for visible extension, *et* for tangible extension, and *x* for the element of judgment or estimate involved in the mental construction. Real extension is the complex unity in difference $x \begin{cases} et \\ ev \end{cases}$ which may be signified equally by its appearance to sight (*ev*), or its appearance to touch (*et*). Thus tangible extension is as far from being real extension as visible extension is; and, further, the simple co-existence of tangible and visible extension is not enough to constitute real extension. This simple

coexistence may be represented as $\frac{et}{ev}$. But real extension involves, in addition to these sensible data, an element of reflective estimate or judgment, (*x*). Thus, $E=x\left\{\frac{et}{ev}\right.$.

Berkeley's view of the relation might be represented thus: $E=et=xev$. Berkeley believes that we may construct real, *i.e.* tangible, extension from visual data. He insists that this is always an inference. It always involves judgment. We cannot immediately perceive real extension by sight. So far Berkeley is right. But he went wrong in supposing that we can perceive real extension immediately by touch. Our tactful experience does not give us immediate acquaintance with real extension. To know real extension we require to construct or judge on the basis of both tactful and visual data.

CHAPTER IV

METAPHYSICS AND THEORY OF KNOWLEDGE

I. THE POSSIBILITY OF KNOWLEDGE

BERKELEY believes, like Kant, that the desire for knowledge would not be implanted in man if the satisfaction of that desire were for ever impossible. "We should believe," he says, "that God has dealt more bountifully with the sons of men than to give them a strong desire for that knowledge which he had placed quite out of their reach."¹ Let us not depreciate our faculties: let us rather suspect the use we make of them. If we are sceptics, our scepticism is self-imposed. There is nothing in reality to force us into scepticism. Knowledge is possible, but "we have first raised a dust, and then complain we cannot see."² Now, Berkeley believes that this dust has been raised partly by our use of language, but mainly by the doctrine of abstract ideas.

In order to clear away this dust which blinds the eyes of philosophy, Berkeley draws attention, in the

¹ Introduction to the *Principles*, § 3.

² *Ibid.* § 3.

introduction to the *Principles*, to (a) the ambiguity and unsuitability of ordinary language as a philosophical medium, and (b) the confusion caused in philosophy by the doctrine of abstract ideas. With regard to (a) nothing need be said: Berkeley's critique of language follows thrice-familiar lines. But his criticism of abstract ideas is of the first importance, both for the interpretation of his own positive doctrine, and on account of the fundamental philosophical problems to which it gives rise. To this, then, we now turn our attention.

There is a good deal of misapprehension as to the precise nature of Berkeley's criticism of abstract ideas. This misapprehension is due to a failure to notice that his criticism is really a twofold one. Partly it is an objection, on psychological grounds, to previously given accounts of the process by which abstract ideas are formed in individual experience; and partly it is a metaphysical examination of the problem whether any abstract ideas at all are possible. Berkeley himself, it is true, is not as careful as he ought to have been to distinguish these two lines of criticism; but in examining his arguments it is necessary to bear in mind that there are two lines.

Berkeley first argues that the received theory of the formation of abstract ideas is indefensible. It has been too rashly assumed that the view which Berkeley states is intended to represent Locke's theory. Now, in reality, what Berkeley meant to state and attack was not exclusively Locke's theory, but the generally accepted doctrine, mainly a legacy from Scholasticism, which had been supported by

Locke. The paragraphs¹ in which Berkeley expounds the theory of the formation of abstract ideas which he wishes to criticise are introduced by the statement "It is agreed on all hands," and Locke is never referred to. It is only later, when Berkeley is examining "what can be alleged in defence" of the theory, that he mentions Locke as one who has given the doctrine of abstraction "very much countenance."² His procedure is to state and criticise generally a theory, and then examine in detail some particular arguments in favour of such a theory.

This view of Berkeley's procedure is confirmed by his rough draft of the Introduction to the *Principles*. In that document he points out that he is attacking the general theory, accepted by philosophers, that there are "abstract ideas or general conceptions of things,"³ or "eternal, immutable, universal ideas."⁴ His criticism is perfectly general, and is directed against "genera, species, universal notions, all which amount to the same thing," in addition to what are properly called "abstract ideas."⁵ In this rough draft, which was written in 1708, Berkeley denied entirely the universal element in knowledge. His later work was to consist in a gradually increasing recognition of the importance of the universal.

To return to the *Principles*. It is clear, I think, that Berkeley's arguments against (a) the general theory which he states (and which he attributes to nobody in particular), and (b) the particular argu-

¹ Introduction to the *Principles*, §§ 7-9.

² Introduction to the *Principles*, § 11.

³ Draft of Introduction, iii. 359. ⁴ *Ibid.* iii. 370. ⁵ iii. 360.

ments advanced by Locke in support of such a theory, are both perfectly sound. The general theory which Berkeley states is neither a travesty nor a faithful reproduction of Locke's theory, because it pretends to be neither. Berkeley's method of argument is astute almost to disingenuousness; but it cannot fairly be charged against him that his criticism of Locke in the Introduction to the *Principles* involves an *ignoratio elenchi*.

Berkeley's statement of the generally received theory of the process of abstraction runs as follows. We start with particular concrete existing things. These things consist of a mixture of different qualities or modes, which have no individual and independent existence, but only coexist along with other qualities in a particular thing. But the mind, taking a particular coloured, extended, moved thing, i.e. a particular thing having the qualities of colour, extension, and motion, abstracts these qualities from one another, and forms an abstract idea of each by itself, as if it actually existed by itself. Thus if the thing were red and moving rectilinearly, the mind would form an abstract idea of red colour by itself, and rectilinear motion by itself. But the process of abstraction can be carried still further. The mind compares together all its abstract ideas of particular colours, and hence forms "a most abstract idea" of colour in general, neither red nor blue nor any determinate colour whatever. It is possible also to form abstract ideas of substances or beings, by abstracting from the particularity of the qualities which coexist in that substance. Thus the abstract idea of a substance includes the abstract ideas of the

qualities which are essential to it. The abstract idea of man, for instance, includes abstract ideas of colour-in-general, size-in-general, and so on. This abstract idea has been formed by regarding particular men, isolating the qualities which they have in common, and then isolating the abstract nature of those qualities from the particular manifestations in any individual man.

To this theory Berkeley objects, on psychological grounds suggested by his own introspective analysis, that if we follow such a procedure as it presupposes, we shall obtain, not abstract ideas, but concrete images. Berkeley is quite prepared to admit that it is possible to image or represent in imagination what has already been perceived. What he denies, from first to last, is that such an image is an abstract idea. What we represent in imagination is always concrete and particular. The theory which Berkeley is attacking makes two assumptions. It assumes (a) that in the acquisition of knowledge, we start always and exclusively with the particular; and (b) that *nihil est in intellectu quod non prius fuerit in sensu*. Now, Berkeley says in effect that on these assumptions, and by the method of abstraction employed, no abstract universal can be reached. If all our knowledge is derived from original sense-perception of particulars, then our knowledge can never extend beyond (a) immediate sense-perception itself, and (b) representation in imagination. In both these classes of cases the object of knowledge is a concrete fact. Abstract ideas do not exist, because logically the system of knowledge presupposed by this theory has no place for them.

Thus, if universals are reached only in the way this theory avers, universals are both psychologically and logically impossible.

Berkeley now proceeds to criticise two or three of Locke's arguments in support of such a theory as this.

(1) Locke maintained that man is distinguished from the brutes chiefly by the possession of the faculty of abstraction. Berkeley denies this on the ground that neither man nor brute can form an abstract idea. And in any case, he continues, even if man could form an abstract idea, it is imagination which really differentiates him from the brutes. No brute can imagine. That is man's exclusive prerogative.

(2) Locke held, in answer to his own question, "Since all things that exist are only particular, how come we by general terms?", that "Words become general by being made the signs of general ideas." Berkeley objects to this also. What really happens, he says, is that words become general by being used to signify or stand for particulars. Berkeley's point is the perfectly sound one that we do not, as a matter of fact, form an abstract universal by abstraction from particulars, and *then* give it a name. The word is made the sign, without any intermediary, of a group of particular things, any one of which, however they differ among themselves in detail, is indicated by the word.

(3) Locke believed that by a comparison of particular triangles it is possible to frame the general idea of triangle, which, though derived from particulars, "must be neither oblique nor rectangle, neither

equilateral, equicrural, nor scalenon; but all and none of these at once. . . . It is an idea, wherein some parts of several different and inconsistent ideas are put together."¹ Berkeley maintains, on psychological grounds, that it is impossible that any man should come to have such an idea. In Locke's account, inconsistent ideas are put together to form an abstract idea, which, if it be possible, is necessarily imperfect, because it is a congeries of inconsistencies. Berkeley challenges every man to introspect, and discover for himself whether he can form an abstract idea in any such way as this theory assumes. To this challenge, Berkeley says, only one answer can be given. The formation of abstract ideas in this way is an impossibility.

So far, Berkeley has not examined the general question whether universals are possible at all, but has merely criticised the view that those "notions are formed by abstraction in the manner premised";² and at every point, both in his attack on the theory as a whole, and in his detailed objections to Locke's arguments in support of it, his criticism seems sound and effective.³

But, in addition to this psychological criticism, Berkeley examines, on more metaphysical grounds, the question of the possibility of universals. It is often said, but quite wrongly, that in the *Principles* Berkeley denies altogether the existence of universals. In reality he is perfectly willing to admit

¹ Quoted by Berkeley, Introduction to the *Principles*, § 13.

² Introd. to the *Principles*, § 15.

³ A more popular and less guarded re-statement of the criticism of abstract ideas was given in *Alciphron* (ii. 323 ff.), but was withdrawn in the third edition.

universals. "It is, I know," he says, "a point much insisted on, that all knowledge and demonstration are about universal notions, to which I fully agree."¹ That universality is necessary for knowledge is simply taken for granted.

Now, it is one thing to admit universals, but quite another to say what they are. This question Berkeley finds it very difficult to decide. One thing, at any rate, they certainly are not. They are not abstract ideas. On his terminology, an abstract idea is a manifest contradiction. For an idea, in Berkeley's view, is always concrete, being either a concrete particular thing, *e.g.* this man, or a concrete particular image, *e.g.* a mental picture of this man. And it is quite obvious that (a) it is impossible to perceive "this man" abstractly, and (b) it is impossible to form an image of "this man" abstractly. In other words, since an abstract idea, if it means anything, must either be an abstract concrete thing or an abstract concrete image, and as both of these definitions involve the same *contradictio in adiecto*, it necessarily follows from Berkeley's premisses that there can be no abstract ideas. But in denying the existence of abstract ideas, it must be repeated, Berkeley has not denied, nor does he intend to deny, the necessity of universality.

There remain, after the abolition of abstract ideas, six possible views of the nature of universals, to all of which Berkeley pays some attention. The functions of universality in knowledge may be discharged by (1) particular things, or (2) particular

¹ Introd. to the *Principles*, § 15. Cf. *A Defence of Free-thinking in Mathematics*, § 45; and *Three Dialogues*, i. 382.

images, or (3) names, or (4) meanings, or (5) signs, or (6) notions.

Each of these views of the nature of universality is considered by Berkeley, or, it might be truer to say, they all struggle together in his mind for supremacy.¹ Yet, for all their conflict, they do not occur absolutely at haphazard. A certain process of development may be discerned in the order in which each in turn becomes prominent in his mind. That development takes place along two main lines; and the relation of theory to theory becomes tolerably clear, if we consider first (1) and (2) in close connection, and then (3) and (4). In each case we shall find that there is a more or less continuous evolution, and that the development is roughly parallel, so that, starting with (1) and (3), *i.e.* the initial views in each of the two lines of development, Berkeley gradually arrives at (2) and (4) respectively, and eventually the process of development culminates in (5).²

It should, however, be pointed out at the outset that it is idle to pretend that any hard and fast lines may be drawn between these theories, or that we can definitely and exclusively assign each view to some particular period in Berkeley's mental history. The possibility of doing that is effectually excluded

¹ The difficulty of discovering what precisely Berkeley's theory is due partly to a real confusion in his mind, and partly to the ambiguity of the terms he uses. For a man who is always complaining of the mischief wrought by words, his own terminology is surprisingly loose. Thus he uses "conceive" and "imagine" synonymously, "idea" for both "thing" and "image," and so on.

² Theory (6) is what the biologists would call a discontinuous variation. It occurs first in the second edition of the *Principles* (1734), and in the meantime we postpone our examination of it.

by the fact that four of the views are stated or at least suggested in the *Principles*. But the order in which they arose in Berkeley's mind is certainly that which we have mentioned ; and it is also the order in which they become prominent in his writings.

Thus, in the days of the *Commonplace Book* (1706-8), the dominant theories are (1) and (3). Berkeley believes, that is, that the *functions* of universals (he insists that there are strictly no universals) are performed by particular things ; and that, for certain purposes of reasoning, the *names* which these particular things bear may be of importance.

While both of these views are mentioned in the *Principles* (1710), Berkeley had by that time passed slightly beyond them, and the theories of universality which occupy his mind are now (2) and (4). The functions of universality are no longer performed solely by the actual particular thing, but rather by the *image* of the thing. And he also recognises that his early nominalism must be developed by insisting that what is of importance for reasoning in the name is not its mere nominality but its *meaning*.

And the most important view, which we have numbered (5), though it existed in a nascent form in the *Principles*, was not actually developed till 1732-1733. In *Alciphron* (1732) and *The Theory of Vision Vindicated* (1733) the theory of universals as signs is most fully developed. We now regard the particular thing or its image not in themselves but as *signs*, and on the basis of these signs we reason.

Bearing in mind that the distinctions which we have drawn are merely relative and approximate,

we now proceed to explain, in greater detail, the nature of the views which successively occupied Berkeley's mind.

(1) According to the first theory, particular things perform the functions of universality by standing for or representing all other particular things of the same kind. To make this clear, Berkeley uses several examples taken mostly from mathematics. Suppose a geometrician is demonstrating the method of cutting a line into two equal parts. For the purposes of his proof he first draws a black line an inch in length. This is a particular concrete line. But the proof demonstrated with reference to this particular line will be true of all particular lines of the same kind, because the particular line, as it is used in this proof, stands for or represents all particular lines of the same kind.¹

But every instance of a particular performing the functions of universality is not so simple as this. Suppose, for example, that in proving the theorem which says that the interior angles of a triangle are together equal to two right angles, the figure which we actually have on the paper in front of us is an isosceles right-angled triangle. What justification have we for taking this particular triangle, of a peculiar type, to represent all other triangles ? Berkeley answers that while it is true that the diagram which we have in view in such a case does include particular features (the right angle and the equality of the two sides) which are not common to all triangles, yet the conclusions reached with regard to the diagram are true of all other triangles, because

¹ Introduction to the *Principles*, § 12.

in our proof we made no mention of the peculiar features of the triangle, but used only those characteristics which are common to all triangles. The actually drawn triangle is considered with regard to the purpose for which it is being used, and whereas in one case the right angle may be of no significance, in other instances, *e.g.* in the proof of the Pythagorean theorem, it is essential.¹ The particular line or triangle performs the functions of universality, and, though still remaining particular, may be reasoned upon and give rise to general conclusions, by being regarded as a type-case, *i.e.* an instance of a class of lines or triangles.

(2) But we do not always have a concrete type-case before the mind. In simple mathematical demonstration it is possible to do without an actually drawn figure. We may simply imagine it. The actual figure is a picture drawn on paper, the imagined diagram is a picture in the mind. In such a demonstration a previously drawn figure, or some combination of previously drawn figures, is represented in imagination; and the type-case which we now use is not the actually drawn figure but the mental image of it. The image is itself a particular concrete existent, which stands for or represents all particular things of the same type as the particular

¹ Of course the question arises, What right do we have to abstract in this way? The very fact that we can consider the particular with reference to a purpose or class of purposes shows that it is not a bare particular. In the second edition of the *Principles* Berkeley notices the difficulty. "It must be acknowledged," he says, "that a man may consider a figure merely as triangular, without attending to the particular qualities of the angles or relations of the sides. So far he may abstract." (Introd. to *Principles*, § 16.)

thing of which it is an image. Thus the image is, in regard to the discharge of its functions of universality, doubly representative. It represents a particular thing which in turn represents the class of things of its type.

Thus the particular, whether thing or image, "becomes general," or rather, for the purposes of reasoning discharges the functions of universals, by being considered as a type-case. The two different views should be regarded, not as mutually contradictory, but as to some extent complementary; and they are, in fact, both comprehended in one of Berkeley's general formulae: "An idea, which considered in itself is particular, becomes general, by being made to represent or stand for all other particular ideas of the same sort."¹ And, since idea for Berkeley may mean either (a) a particular thing, or (b) a particular image, this formula covers both views (1) and (2).

(3) Along parallel, but significantly different lines, Berkeley develops another theory of universality. Universality may be considered to belong, not to the actual particular things, but to the *names* which designate them. Thus, instead of saying that we reason on an actually drawn particular triangle, we may say alternatively that we reason on the *name* triangle, and that it is nothing but this name that we have in view when we enunciate general propositions about the angles of a triangle. This extreme nominalism is prominent in the *Commonplace Book*, but in the *Principles* it has been almost abandoned, or rather, its implications have been so

¹ Introd. to *Principles*, § 12.

fully developed that little of the original theory remains.¹

The plausibility of the crude nominalist view rests on the apparent determinateness and universality of names. A name seems to have a regular and uniform signification admirably fitted to perform the functions of universality. But, after having been attracted by these characteristics of the name, Berkeley gradually comes to the conclusion that they are largely illusory. In the Introduction to the *Principles* he declares roundly, "There is no such thing as one precise and definite signification annexed to any general name."² He believed that the ambiguity and indefiniteness of words is a chief source of the unsatisfactory state of philosophy. If then, he concluded, words are so indeterminate, they cannot be fitted to discharge the duties of universals. But though the extreme nominalist view was, in the end, entirely rejected by Berkeley, it paved the way for a more adequate conception of universality.

(4) The attractiveness of nominalism was due to the belief that names supply us with universally true meanings. That belief having been shown to be false, why not simply say (omitting all reference to names) that the meaning itself is the universal? Berkeley insists, though perhaps without seeing the full implication of his words, that what is important is the meaning or signification. A particular can stand for or represent other particulars, because all have the same meaning.³ It is the meaning, the identical reference, that supplies the element of

¹ Cf. Introd. to the *Principles*, §§ 18-23.

² § 18.

³ Introd. to the *Principles*, § 12.

universality.¹ Berkeley points out that when we consider the meaning of a thing, we do abstract; but this kind of abstraction, he says, is admissible. Thus, there is, after all, a universal "triangularity," for it is a meaning which omits all reference to the particular qualities of the angles or relations of the sides.²

(5) These two lines of thought, viz. that developed in (1) and (2) according to which we reason on a concrete type-case, and that evolved in (3) and (4), which says that we reason on a universal meaning, are both wrought together into some semblance of coherence in a theory which, though adumbrated in the *New Theory of Vision* and the *Principles*, was not expounded by Berkeley till his Philosophy of Signs was developed in *Alciphron*. The general bond of connection between the views is that they all imply in some degree a theory of representative knowledge.

The concrete type-case is, as we have seen, either immediately representative (if such a collocation of terms is permissible), or mediately representative. In other words, the type-case may represent other cases either at first-hand or at second-hand. Again, the name with its meaning owes its importance in the theory of knowledge to its representative function. Though, unlike the particular thing or the mental image, it gives us no picture of the thing represented, it does represent, by standing for and signifying, all things bearing the same name. In one aspect, indeed, the name is representative at third-hand; for it may be regarded, as it sometimes is by Berkeley, as representing the mental image which represents the particular thing which represents the type or

¹ Introd. to the *Principles*, § 15.

² *Ibid.* § 16.

class of which it is a member. But such a trebly-mediated relation between the name and the class of things it represents is not necessary. If we say, as Berkeley in his better moments does, that what is important in the name is its universal meaning, then we may state directly that the name *is* the meaning of the class of things to which it is applied as a name.

This representative function of knowledge is developed in Berkeley's theory of signs. The particular thing, the image, the name, and the meaning may all be included, under certain circumstances, and so far as their importance in connection with universality is concerned, under the general category of signs. Of the vital importance of the conception of signs in Berkeley's philosophy we shall speak in detail later; it is enough, in the meantime, to say that the characteristic of signs which peculiarly fits them, in Berkeley's estimation, to play the part of universals, is their identical reference. The meaning of a sign is fixed dogmatically; if it is a true sign it will be understood in precisely the same sense by all who have occasion to use it, and thus it is admirably adapted to supply the medium of reasoning and demonstration. Berkeley is so convinced of the merits of this epistemological doctrine of representation by signs, that he states roundly that *all* universal knowledge depends on demonstration by representative signs. "If I mistake not, all sciences, so far as they are universal and demonstrable by human reason, will be found conversant about *signs* as their immediate object."¹

¹ *Alciphron*, vii. § 13.

This theory of representation is, as we have mentioned, present, at least in germ, in all that Berkeley writes on the question of universality. We must now submit it to criticism, and show that, so far from providing any real solution of the problem of universality, it succeeds only in throwing into relief the great difficulties inherent in it. With a view to making this clear, let us examine a little more closely what Berkeley says and does not say.

(a) In the first place, it must be pointed out that Berkeley does not attempt any critical scrutiny of the notion of "representation." What exactly he means by representing or standing for he does not explain. And it results from this lack of definition, as one consequence, that he uses indifferently representatives of different status. The representative, as we have seen, may be either a particular thing, or a particular image, or a word, or a meaning. Now, the status of these representatives with respect to what they represent is not uniform. What is represented is always a particular thing or a class of particular things. When the representative is also a particular thing, the status of both is, of course, the same. But in all other cases of representation the status of sign and thing signified differs in greater or less degree. The image is representative at second-hand, since it really represents first the particular thing, and thence all other particular things of the same kind; the word at third-hand, and so on. Or we may say, varying the terminology, that the particular thing is a representative of the first degree, the image a representative of the second degree, and so on.

In Berkeley's earlier theory the predominant form of representation is that of the first degree, but in his later work representation of the third degree is the typical form of relation. Between these two forms of relation there is an important logical difference, to which, however, he never draws attention. Representation of the first degree is necessarily a symmetrical relation, representation of greater degrees is properly asymmetrical. A relation is called symmetrical, when if it holds between *A* and *B*, it also holds between *B* and *A*. Thus the relation of equality is symmetrical, because if *A* is equal to *B*, *B* is also equal to *A*. But some relations are not symmetrical, the relation, for instance, of *greater than*. If *A* is greater than *B*, *B* cannot be greater than *A*. Such relations we will call asymmetrical.¹

If we apply this distinction to the question of representation, it is clear that, when the representative is a particular thing, the relation it bears to the particular things it represents is symmetrical. Any particular thing it represents may also be taken to represent it. The representative function it performs might equally well have been performed by any one of the indefinitely numerous things it represents. If *A* represents *B*, then *B* represents *A*. But when the representative is a name or an image, its relation to the things it signifies is asymmetrical. The name dog represents or stands for all actually existent dogs, but we cannot strictly say that an actually existent dog represents or stands for the

¹ This distinction was suggested by, but is not identical with, that of Mr. Russell. (*Our Knowledge of the External World*, pp. 47 and 124.)

name dog. Similarly, the mental image of the dog represents the actually existing dog, but the actually existing dog cannot properly be said to represent the mental image of it. In these cases *A* represents *B*, but *B* does not represent *A*.

The importance of this distinction is entirely overlooked by Berkeley. Yet his instincts led him aright, for, while he gathered together his earlier lines of thought in his doctrine of signs, he allowed what we have called representation of the first degree (which was at first, in his view, all-important) to slide into the background; and in the latest form of his theory representation is entirely performed by signs having a status differing from that of the things which they signify, and therefore related to them asymmetrically. And this seems to be the only proper sense in which to use representation. When we speak of representation in common parlance, it seems to be always the case that (a) the status of the representative differs from that of the person or thing represented, and (b) the relation between them is asymmetrical. We speak, for instance, of an ambassador being representative of a king, a lawyer representative of his client, a commercial traveller representative of his firm, and so on. In all these cases the representative differs in status from the person or persons he represents; and in no case is the relation between them symmetrical, for the king does not represent the ambassador, nor the client his lawyer. And we may say that the conception of representation seems properly applicable only in cases in which these two characteristics are present, only, that is, when (a) the representative differs in

status from what is represented, and (b) the relation between them is asymmetrical. Now, these *desiderata* occur only in the case of representation by signs of the second or any higher degree. A name, or image, or algebraic symbol differs in status from what it stands for, and the relation which it bears to the object represented is asymmetrical. And this is the theory of representation implied in Berkeley's later doctrine of signs.

But it should be noticed—the point is important—that there is even a sense in which Berkeley's earlier theory of the mutual representability of particulars is valid. Under certain conditions representation is possible even though (a) the status of representative and object represented is the same, and (b) the relation between them is symmetrical. Cabinet ministers, for instance, may agree that one should represent another, *e.g.* at Question-time in the House; and the partners in a large firm may, for certain purposes, represent one another in the transaction of the firm's business. In such cases there is real representation, though neither of the conditions we originally laid down are observed. Similarly, it may be urged, we are justified, under certain conditions, and for certain purposes, in regarding a particular thing as the representative of other particular things, any one of which might equally well be regarded as *its* representative. And so we may.

It should, however, be noted, and here we come to the important point, that such representation is possible only under certain circumstances and for certain purposes. Cabinet ministers and partners in a firm may represent one another only under the

conditions imposed by their office and in accordance with the purposes of their common work. In other words, they perform mutually representative functions only because they are not isolated particulars. Cabinet ministers are officially committed to the same policy, and partners represent one another in so far as they are related by the common interests of the firm to which they belong. It is this fact of prior relatedness that enables them to represent one another. They can do it, because they are not barely particular. They already form some sort of unity that is more than a mere aggregate of isolated units, and it is only because they are thus related that they are able to perform representative functions. Thus the conclusion to which Berkeley would be forced, along this line of argument, is that particulars can perform, by representative operation, the offices of universals only because they are not *mere* particulars, but are already related by some bond.

(b) This conclusion may also be reached, along another line of criticism, by drawing attention to a persistent ambiguity which runs through the whole of Berkeley's theory of representation. As we pointed out in tracing the evolution of his view, the development proceeds on two parallel lines. But these lines are not kept rigorously distinct by him; and, in the end, he tries to bring them together in his developed theory of signs. Now, there is, though Berkeley does not seem to notice it, a most important logical difference between the conception of sign looked at from the standpoint of the first line of argument and the conception which we find to be

implied in the second. In the first case the sign must be regarded in denotation, in the second in connotation. We consider in the first case the extension of the sign, in the latter its intension.¹

If we take as a sign a particular thing or image, then we read it in denotation. The extension of the sign is in these cases the important thing. It represents, Berkeley holds, an indefinite number of other things of the same kind. Names also are regarded by Berkeley mainly in denotation. They are useful as signs because they stand for all the particular things that bear the same name. But when we insist on the *meaning* of the name, as Berkeley sometimes does, our interest shifts to its connotation or intension. What is now important in the sign is not the particular things it signifies, but the qualities connoted by it, in virtue of which it is able to denote particular things. It is only because these qualities are connoted that the thing is able to signify all things of a *similar* kind. The very conception of similarity implies the recognition of the common qualities in virtue of which things are similar. Thus, it is only because the sign does involve this connotative aspect, only because it already possesses universality, that it is able to represent at all. A sign, then, we conclude, is fitted to fulfil the functions of universality, because it is not merely a particular which calls up by association other bare particulars, but is already in virtue of the qualities it connotes universal in meaning or intension.

¹ Cf. E. G. Husserl, *Logische Untersuchungen*, ii. 178 ff.; and E. Cassirer, *Erkenntnisproblem*, ii. 221 ff.

(c) This conclusion, reached along two slightly different but convergent lines of criticism, implies that Berkeley's sensationalism forms an inadequate basis for the theory of signs. In a bare sensationalism the only possible relation is that of association. Things naturally, in virtue of being constantly associated in our experience, suggest other things and are suggested by them. But though the theory of signs begins in this associationism, it passes beyond it. For it involves mental operations which differ in kind and principle from mere sense-perception.¹ In sense-perception we are immediately aware of a succession of particulars, but this mere aggregate will never give the universal meaning which enables us to use any one particular to stand for others of the same kind. Further, in using a particular to serve as a sign we do not take it simply at its face-value with all the features which we observe it to possess. Before we can use it as a sign we must have some acquaintance with the purpose it is to serve and the thing it is to signify. Thus, when we use it as a sign, we perform certain mental operations upon it. Suppose—to take Berkeley's example—we are using an isosceles right-angled triangle as our sign. If we are using it to prove the truth of the proposition that the interior angles of a triangle are together equal to two right angles, then we abstract from it its qualities of being isosceles and right-angled, for these are irrelevant to the purpose we have in view; but if we are using it to prove the Pythagorean theorem, its right angle is relevant to our purpose, but we may

¹ Cf. Berkeley's distinction between *suggestion* and *inference*. (*Theory of Vision Vindicated*, § 42.)

abstract the equality of its two sides ; and so on. In each case it can be used as a sign only because the mind is able to operate upon it, and thus by means of abstraction, selection, and other processes, fit it to play the rôle of a sign.

Now, in a barely sensationalist philosophy such mental operations could have no place. Berkeley is aware of this. But he never attempts to justify us in the exercise of the right thus to abstract, apparently arbitrarily and even capriciously, certain elements from the particulars of whose existence sense-perception assures us. It is clear that, in this process of abstraction, sense-perception is actually overridden by the activity of the mind. If *esse* is *percipi*, then the triangle that I perceive to be an isosceles right-angled triangle *is* an isosceles right-angled triangle. But Berkeley says that it is possible to abstract by mental operations these qualities of the triangle, so that, although *as perceived* it is an isosceles right-angled triangle, yet *as conceived* it is simply a triangle. Thus, what is really used as a sign is not the triangle as perceived but the triangle as conceived. And, in general, we may say that words, images, and mathematical symbols could not discharge their functions as signs were it not for the active operation of the mind, which by considering their meaning and regarding them conceptually enables them to be used as universals in reasoning.

Our general conclusion, then, is that the doctrine of representative knowledge, originating in a bare sensationalism, is seen in the end, by a perfectly necessary logical development, to imply, as the condition of its validity, a system of mental operations.

This conclusion was probably reached by Berkeley, at least in a subconscious kind of way, when he published the second edition of the *Principles* in 1734. There he maintains that, in using a particular thing as a sign, it is possible to abstract from it the features which are irrelevant to the purpose for which it is being employed ; and though he is not aware of all the implications of this momentous admission, he at least realises perhaps the most important element of its meaning, viz. that the use of signs implies the exercise of mental operations distinct from sense-perception. Closely connected with this admission, and also appearing for the first time in the second edition of the *Principles*, is Berkeley's doctrine of universals as *notions*. This is the sixth possible theory of universals mentioned by Berkeley.

(6) So far, on all the views which have been considered, the functions of universality have been performed by elements originally acquired in sense-perception. But Berkeley came to see that knowledge is incomplete without the conceptual element. It was in order to supply this that he developed, though very imperfectly, the doctrine of notions. Now, as notions are concerned more particularly with the knowledge of a special class of objects, it will be convenient to give an account of them in connection with Berkeley's general theory of Knowledge and its Objects. It is to that that we now pass.

II. KNOWLEDGE AND ITS OBJECTS.

So far, in our examination of Berkeley's theory of knowledge, we have been concerned only with his criticism of abstract ideas, and with his own positive views on *universality* in knowledge. In dealing with this aspect of knowledge first, we have been following Berkeley's lead, for it forms the subject-matter of the *Introduction to the Principles*. To the argument of the *Principles* itself we must now proceed.

We have now to consider knowledge under a different aspect from that which has been engaging our attention. So far, we have not explicitly taken into account the nature of the *objects* of knowledge ; but this standpoint is one which cannot be ignored, and consequently, in the *Principles*, Berkeley regards knowledge in connection primarily with its relation to its objects. Thus, it is with regard to its objects that he distinguishes knowledge into two kinds. "Human knowledge," he says, "may naturally be reduced to two heads, that of ideas and that of spirits."¹ Knowledge of ideas is by way of either sense-perception or imagination, knowledge of spirits is by way of notions. But in each case knowledge is *direct*. The cognitive relation of the mind and its objects, whether presentative or notional, is *immediate*. And this is the second respect in which the theory of knowledge, as we are now to consider it, differs from the doctrine of representative knowledge by signs with which we were concerned in the last section. That was *indirect*, this is *direct*.

Knowledge, then, from the standpoint of its

¹ *Principles*, § 86.

objects, is of two kinds, perceptual and imaginative acquaintance with ideas, and notional or conceptual acquaintance with spirits. We shall explain and examine first Berkeley's theory of knowledge of ideas, and then his suggestions towards a doctrine of the knowledge of spirits.

First, of knowledge of ideas. At the very outset, before we can advance, it is necessary to rescue his theory of knowledge of ideas from a grave and common misrepresentation, for which, it must be admitted, his own awkwardness of expression is largely to blame.

The generally accepted interpretation of Berkeley's view makes him enumerate *three* classes of ideas, viz. ideas of sensation, ideas of reflection, *i.e.* those obtained by attending to the operations and passions of the mind, and mental images. It has always been assumed that this is the meaning of the first sentence in the *Principles*. But a careful examination of the sentence will show, I think, that it does not mean what it is commonly taken to mean ; at any rate, the generally accepted interpretation can readily be shown to be unnecessary, and a comparison of it with the whole tenor of the *Principles* proves that it is not the meaning that Berkeley himself intended. The sentence in question runs thus : "It is evident to anyone who takes a survey of the objects of human knowledge, that they are either ideas actually imprinted on the senses ; or else such as are perceived by attending to the passions and operations of the mind ; or, lastly, ideas formed by help of memory and imagination."¹

¹ *Principles*, § 1.

With regard to the meaning of the first and third clauses of this sentence there can be no doubt. Berkeley tells us, that is, that among the objects of human knowledge are included (a) "ideas imprinted on the senses," and (b) "ideas formed by help of memory and imagination." So far all is clear. It is with regard to the meaning of the second clause that misapprehension is, as far as I am aware, universal. It is assumed by commentators on Berkeley that the second class of objects of knowledge is a class of ideas, *i.e.* *ideas* perceived by attending to the passions and operations of the mind. Now, this interpretation can be shown to be erroneous both grammatically and philosophically.

Grammatically, the antecedent of the relative pronoun "such" is not "ideas" but "objects of knowledge." It would, indeed, be possible to make out a case by special pleading for taking "ideas" as the antecedent of "such," but, since the three clauses in which classes of objects of human knowledge are being enumerated are coördinate, the proper construction is to take "such" to refer not to any term in one of the coördinate clauses, but to the term "objects of knowledge" to which all the three coördinate clauses are subordinate. What Berkeley really says is that the objects of human knowledge include, in addition to the two classes of *ideas* already mentioned, a class of *objects of knowledge* perceived by attending to the passions and operations of the mind. He does *not* say that these objects of knowledge are ideas; he seems, indeed, to use an awkward construction deliberately, in order to avoid committing himself to

the statement that these objects of knowledge are ideas.

For proof of our interpretation we are not confined to grammatical analysis of a single isolated sentence. It is confirmed also by what Berkeley says and does not say elsewhere in the *Principles* and other works. It is certain from his other works that he regarded knowledge of mental operations as of the same kind as knowledge of spirits. It is not perceptual knowledge, not knowledge by ideas, but conceptual knowledge, the knowledge that he later called notional. Thus, in *De Motu* (1721) he mentions that pure intellect, in distinction from sense-perception and imagination, is concerned with "res spirituales et inextensas, cuiusmodi sunt mentes nostrae, earumque habitus, passiones, virtutes, et similia."¹ And in the second edition of the *Principles* the operations of the mind are bracketed with spirits as the objects of conceptual notional knowledge.

Further, it is significant that, in the first edition of the *Principles*, while Berkeley writes in detail on the two classes of ideas, he says not a word in explanation of our knowledge of the passions and operations of the mind. Now, if such knowledge is knowledge by way of ideas, it is difficult to explain why Berkeley dealt with the other two classes of ideas, and altogether omitted to expound or examine this. On the other hand, the omission may be easily accounted for on the interpretation which I have suggested. The explanation is this. Berkeley did not deal with knowledge of the passions and opera-

tions of the mind in the *Principles*, because he intended to treat of it, along with knowledge of spirit, in the projected Part II. of the *Principles*.¹

And on the negative side, there is an entire absence of evidence that he ever did hold the view commonly attributed to him. There is no proof that he ever regarded knowledge of mental operations as an idea. And it seems inconceivable that Berkeley, with all his inconsistency, could have considered it possible to have an idea, in his sense of the word, of mental operations. He must have been aware that precisely the same arguments as he used against ideas of spirits may be advanced against ideas of mental operations.² We are, therefore justified, I think, in

¹ Berkeley refers several times to the second part of the *Principles*. "As to the Second Part of my treatise concerning the Principles of Human Knowledge, the fact is that I had made a considerable progress in it; but the manuscript was lost about fourteen years ago, during my travels in Italy, and I never had leisure since to do such a disagreeable thing as writing twice on the same subject." (Letter to Samuel Johnson, June 25, 1729.) The original edition of the *Principles* had "Part I." on the title-page. In the second edition, which was published two or three years after this letter was written, "Part I." was omitted. In the *Commonplace Book* there are many references to the subjects which will be dealt with in "the Second Book" or the "Second Part." From these references we gather that Part II. would have dealt *inter alia* with spirits, mental operations, and relations, and also with ethics. Berkeley also refers to Part II. in a letter written in 1711 to Jean Leclerc. There he mentions his anxiety to have the criticism of savants on his *Principles*, in order that, either encouraged by their approval, or profiting by their criticisms, he may the sooner prepare *ad conjectaria inde deducenda partemque secundam pertexendam*. (*Archiv f. Gesch. d. Phil.* xvii. 161.) There is also a reference to it in the Preface to the *Three Dialogues* (i. 376).

² Mental operations are, for Berkeley, objects of knowledge. But they are not ideas, nor can they be known by way of ideas. They are known in the same way as spirits are known.

believing that Berkeley means to enumerate only two classes of knowledge of ideas.¹

These two kinds of ideas are, first, "ideas actually imprinted on the senses," and, second, "ideas formed by the help of memory and imagination."

To take first ideas of the former kind. Idea in this sense may mean, for Berkeley, either (a) a particular sensible quality, or (b) a collection of such qualities, i.e. "a thing." Through the various sense-organs we become aware of sensible qualities, such as heat and cold, colours, tastes, and so on; and all these specific sensible qualities may, he maintains, be called ideas. Now, these qualities sometimes cohere with one another, or uniformly accompany one another: in such cases these groups or collections of qualities, being always observed to go together, are given one name, and regarded as one thing. And such a thing, as a determinate aggregate of sensible qualities, may be termed an idea. But though he does use the word idea for either a single sensible quality or a determinate group of qualities,

¹ There is only one argument, I think, which can be adduced in favour of the universally accepted interpretation of Berkeley's sentence. It may be pointed out that in § 2 Berkeley distinctly states that "besides all that endless variety of ideas or objects of knowledge," there is a spirit which perceives them; and that if Berkeley had intended to consider knowledge of the operations of the mind as akin to knowledge of spirits, he would have mentioned them along with spirits. But in answer to this, it should be noted that Berkeley's division in §§ 1 and 2 is not based on "kind of knowledge": the distinction is between objects of knowledge (in § 1) and knowing subject (in § 2). Thus Berkeley is perfectly justified in mentioning mental operations in § 1, even though he believed that the kind of knowledge we have of them is not knowledge by way of ideas. Mental operations are objects of knowledge, and this is all Berkeley says.

he seems on the whole to prefer to call specific qualities simply qualities, and to reserve the name idea for things.

Ideas of the second sort are reproductions in memory or imagination of the former class. These mental images are sharply distinguished by Berkeley from things. The various marks of distinction which he mentioned are those which Hume repeated and psychology accepts.¹ "The ideas of sense are more strong, lively, and distinct than those of the imagination; they have likewise a steadiness, order and coherence; and are not excited at random, . . . but in a regular train or series."² Images, on the other hand, are entirely dependent on the individual mind—"It is no more than willing, and straightway this or that idea arises in my fancy."³ Images are representations, and they may represent either real things or chimeras, according to the will of the individual who gives them existence.

Our apprehension of ideas of both classes is immediate.⁴ Ideas of the former class, or idea-things, as we may call them, are immediately perceived; ideas of the latter type, or idea-images, are immediately imagined. In both cases alike Berkeley's analysis of the knowing process reveals only the conscious subject on the one hand, and on the other the idea-thing or idea-image, the relation between the knower and the object known being regarded as necessarily direct. Now, this doctrine of the immediacy of knowledge brought Berkeley into conflict

¹ Cf. G. F. Stout, *Some Fundamental Points in the Theory of Knowledge*, p. 14.

² *Principles*, § 30. ³ *Principles*, § 28. ⁴ *Dialogues*, i. 383.

with previously accepted philosophical conclusions at two points.

(a) Philosophy had previously been more or less agreed that while the relation between the mind and its mental image is direct, this mental image yet represents some third thing actually existing apart from it, so that when, as we say, we imagine a house, though the mind is related immediately to the mental image of the house, this image performs a representative function with regard to some probably actually existing and previously perceived house. This reference of the image to something external to it is always presupposed. Now, Berkeley simply cuts out this external reference altogether; so that, on his theory, in imagination what we know is a mental image, and a mental image only. Just as the idea which we perceive is the thing, and not a copy of the external thing, so the mental image is (not, certainly, a thing, but) what we actually know, and not merely a copy of it. In other words, if I imagine a house, what I am cognitively related to is the mental image; and in simple imagination this mental image does not necessarily refer to anything apart from itself.

In certain cases, indeed, the mental image may be taken to represent something not itself, whether that something be another mental image or class of images or an idea-thing or class of idea-things. In such instances, Berkeley holds, what we have is not simple imagination, but a process of inference, in which the mental image is regarded as a sign, which represents or stands for something not itself, and on the basis of which we carry on reasoning. But

in such representative knowledge, Berkeley's view of which has already been explained, we have passed beyond mere imagination, which is always immediate and direct.

(b) Berkeley's theory of immediacy also comes into conflict with the doctrine of Representative Perception. That doctrine, as maintained by Locke and Descartes, according to whom the mind perceives the external world by means of intermediate ideas which are regarded as copies of the real things, must be clearly distinguished from Berkeley's own theory of representative knowledge by signs. According to Berkeley's theory, which is a theory of inference, in universal knowledge we must have intermediate and representative factors on which to reason. But perception is in an entirely different position from that : perception involves, Berkeley believes, no inference or reasoning ; it is a direct and immediate relation of the mind to idea-things. Whereas in reasoning we know only *about* the thing of which we reason, in perception we are immediately aware of the thing. I see the blue paper on which I write immediately and directly ; I do not see *about* it, nor do I see anything intermediate between me and it. Berkeley insists that if the thing is itself perceptible, there is no need of intermediate ideas to relate it to the percipient subject, for the thing itself is immediately presented to the percipient, and is accordingly, in Berkeley's terminology, itself an idea. In perception, then, we have only two factors, the percipient subject and the idea-thing perceived.

Berkeley's theory of sense-perception suffers both from over-simplification and from lack of discrimi-

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native analysis. These two faults are quite different, and, though it has always been recognised that his theory of perception is in some way deficient, it has not been sufficiently emphasised that there are two mistakes which it commits, and that these two errors should be carefully distinguished.

That Berkeley is betrayed by his eagerness "to abridge the labour of study" into a superficial simplification that overlooks distinctions already established can readily be shown by reference to his criticism of the doctrine of Representative Perception. According to that theory, all perception involves at least three elements, viz. the percipient, the idea perceived, and the external thing ; and it is assumed that the thing is somehow a copy of the external reality. Now, Berkeley saw clearly the difficulties of this theory. If the mind is confined to its own ideas, he argues, and is cut off from immediate knowledge of the real world, how is it to know if its ideas do or do not agree with things ? In order to compare two things, it is necessary to know both. Thus we cannot compare ideas with the things which they represent, because we can never escape the circle of our own ideas. And the further objection is advanced that, if the external world does exist, it cannot be like our ideas (for nothing but an idea can be like an idea), and therefore cannot in any way be known.

It is therefore clear, Berkeley avers, that Locke has gone wrong *somewhere* ; and he argues that Locke's error lies in the postulation of something which does not really exist at all. This non-existent thing is Locke's external material world. What

Berkeley does, then, is simply to accept Locke's view that the relation of the mind and its ideas is immediate, and to deny that there is anything over and above the mind and its ideas. In other words, Berkeley reaches his view of the immediacy of perception by this drastic Procrustean method of "simplifying" Locke's theory.¹

But Berkeley's doctrine is defective also by reason of its lack of psychological analysis; it is too undiscriminating and too facile, and it does not account for the complexity of the process of perception. He may have been right in his criticism of Locke, for Locke may, indeed, have postulated a supposititious element; but, after having discharged this duty of negative criticism, he had only half-completed his work. He ought to have made a careful psychological analysis of the perceptual process, with a view to discovering whether the simple relation mind-idea tells the whole truth about perception.

Now, he never, in fact, attempted any exhaustive

¹ It is interesting to note how similar in method and how different in result is Reid's "simplification" of Locke. Reid, like Berkeley, arguing as an advocate of the plain man and common sense against the subtleties which metaphysics had introduced into philosophy, agrees with him that Locke had obscured the nature of knowledge by interpolating a spurious factor. But on the question which of Locke's three factors is unreal he differs from Berkeley *toto coelo*. By Berkeley it was maintained that Locke's third factor—the material world—has no real existence. But Reid denied the existence of Locke's second factor. Locke's imitative and intermediate ideas are simply creatures of phantasy; they have no real existence. Thus Berkeley is left with mind *plus* ideas, and Reid with mind *plus* matter. For both, the relation between mind and its objects is immediate; and both, we may safely say, commit the error of over-simplification. (Cf. my Introduction to *Selections from the Scottish Philosophy of Common Sense*, pp. 4 ff.)*

analysis of the actual process of perception. He draws no distinction, as we have seen in dealing with his theory of vision, between sensations and sensible qualities; and he even identifies sensations and sensible things or objects.² For him the word idea means at one and the same time a sensation in the mind and a thing presented to the mind. He never examined what difference there might be between a sensation or group of sensations and a thing.³ He made no such analysis of the perceptual process as has been undertaken in recent years by Meinong, Husserl, and others. These writers differ much in detail and in terminology, but they all agree in drawing a fundamental distinction between what the mind means or intends in perceiving or having ideas, and the actual experiences which it has as a particular psychical existent. The former is called "thing" or "object," the latter "experience" or "act."³ Again, in mental experience we may distinguish what are called by Prof. Stout and some other psychologists "presentations." Not all mental experiences are presentations, for certain mental experiences may refer to nothing outside themselves, and it is characteristic of presentations to be presentative of something beyond themselves. Presentations are always contents of immediate experience; but they are not themselves the things that they present. They perform the function of presenting objects that are not themselves contents

¹ *Dialogues*, i. 405.

² *Ibid.* i. 384, 469.

³ "Gegenstand" is often distinguished from "Objekt," and "Erlebnis" from "Akt," but the specialised meanings which have been assigned to them do not concern us here.

of immediate experience. And a distinction is also commonly drawn by recent epistemologists between the physical objects thus presented, the presentations that present them, and the sensations that actually arise from the stimulation of our sensory receptors.

Berkeley makes no analyses of this kind. What he calls ideas bear much resemblance to presentations, but in distinction from them they are representative of nothing apart from themselves. Ideas for Berkeley are both presentations and what presentations are representative of. He does not distinguish carefully between the actual process of perception, the particular experience in the psychical individual, and the thing or object perceived. His theory suffers seriously, in fact, from absence of psychological analysis.

Berkeley's eagerness to attain his results by a short and easy method is responsible also for his failure to give any adequate solution of a difficulty which he himself raises with regard to the self-identity of perceived things.

Do different people really live in the *same* world? Do different people really perceive the *same* thing? The question at issue is simply stated by Hylas: "The *same* idea which is in my mind cannot be in yours, or in any other mind. Doth it not therefore follow, from your principles, that no two can see the same thing?"¹

Berkeley's answer is thoroughly unsatisfactory. The difficulty, he says, is purely verbal, whether we consider it from the standpoint of the plain man or from that of the philosopher. The word *same* is

¹ *Dialogues*, i. 466.

commonly used, he says, to apply to things in which no distinction or variety is perceived, and if we use the term in this popular sense, then the same thing or idea may exist in different minds. Philosophers may wrangle about sameness, but little attention need be paid to them till they have reached some agreement in the definition of terms. Yet he insists that, though they profess to diverge from one another, they are all fundamentally at one in what they *mean*; they differ only in their explanations of what they mean. "Some regarding the uniformness of what was perceived might call it the *same* thing: others, especially regarding the diversity of persons who perceived, might choose the denomination of *different* things. But who sees not that all the dispute is about a word?"¹ In this cavalier way Berkeley dismisses the problem. Had he not buried this difficulty, he would have been forced to make a careful analysis of the facts of perception. *Idea* for him covers, as we have seen, both thing and presentation. Now *qua* presentation it is a particular psychical existent in the mental process of a single individual. But *qua* thing it is regarded by the plain man as one and the same for different percipient individuals. The plain man believes that the thing that is seen by different people is numerically identical. In this sense it is the same thing. Berkeley does not notice that the word *same* conceals a distinction of the utmost importance for philosophy. *Same* may mean either (1) numerically identical, *i.e.* the same, or (2) numerically distinct, *i.e.* similar. When the plain man says that ten men look at the

¹ *Dialogues*, i. 467.

moon he means that the object perceived by the ten men is one and the same, is numerically identical. But Berkeley's theory implies that when ten men look at the moon each man has a presentation of his own in his mind, numerically distinct from those of the others. In the former case one moon is seen, in the latter ten. Berkeley believes that the ideas men have in looking at what is commonly called the same thing are numerically distinct. But men realise that these numerically distinct ideas are similar: "they agree in their perceptions." And Berkeley says it is of no consequence whether we attend to the *agreement* of the presentations and call them the *same*, or regard the *diversity* of the persons who have the presentations, and call them *different*. He thus reduces all sameness or identity to *similarity*.

A further question immediately arises. How does *A* know that *B*'s presentation is similar to his? *A* cannot get outside the circle of his own presentations. If all his presentations are private, and are representative of nothing outside themselves, how can he come to know that they are similar to *B*'s? *A* lives in a world of his own, and so does *B*. How is any communication at all possible between *A* and *B*? Now there are two distinct questions here, and to each, though he does not consider them at all fully, he has an answer to give. (1) What causes *A*'s presentations to be similar to *B*'s when they both look at the moon? (2) How do *A* and *B* come to know that their presentations are similar?¹ (1)

¹ This is essentially the same problem as is discussed with reference to Reid and Hamilton by Ward. (*Naturalism and Agnosticism*, ii. 165 *sqq.*)

Berkeley holds that God causes the similarity of presentations. When *A* and *B* are both looking at what is commonly called the moon, God causes similar ideas to occur in their minds. These similar ideas persist in their minds so long as they continue to look at the moon. If *A* turns away, God instantaneously causes his idea of the moon to cease as a presentation. If *A* and *B* both alter their positions and their attitudes to the moon, God causes their similar ideas to change similarly and concurrently with their changing positions and attitudes. God is wholly responsible for the similarity of presentations. (2) *A* and *B* come to recognise the similarity of their presentations by each forming images or representations of the presentations which God has caused. God does not cause the representations; *A* and *B* cause them themselves, and are able to call them up at will. They can describe these images to one another, and thus come to recognise the similarity of the images. Hence they infer the similarity of the original presentations.

From all this it is clear that in perception more than bare sensational awareness is involved. When our sensory receptors are stimulated, we experience certain sensations. But this in itself is not enough to give us the perception of an object. In addition to the various sensations, an element of interpretation is needed to weld the sensations into a perception. Further, we do not really perceive a thing as a thing unless we know at the same time that it is a thing not only for ourselves, but also for others. In other words, the processes of interpretation and inference, on which depends our recognition of the respects in

which our sensations resemble those of other people when we say that we perceive the same thing, are essentially implied in all actual perception.

Thus, the identical thing that we perceive is *not* immediately given in sensory experience, but is a *construct* which we make by conflating the specific data of the various senses. Berkeley himself puts the matter very lucidly. "Strictly speaking, Hylas, we do not see the same object that we feel; neither is the same object perceived by the microscope which was by the naked eye. . . . Therefore . . . men combine together several ideas, apprehended by divers senses, or by the same sense at different times, or in different circumstances, but observed, however, to have some connection in nature, either with respect to coexistence or succession; all which they refer to one name, and consider as one thing."¹ It is clear, then, according to his own admission, that the *whole* thing is not immediately presented in direct perception. All that we are immediately sensorily aware of when we say that we perceive a house is a fragmentary and disconnected *olla podrida* of sensations: everything else is inference and interpretation, involving past experience and present mental operations.²

We have thus seen that Berkeley's theory of knowledge of the first kind, purporting at the outset to be simple and direct, involves in reality relations and mental operations of a very complicated nature.

We now turn to his doctrine of the second main

¹ *Dialogues*, i. 463-4; cf. i. 469.

² Cf. *New Theory of Vision*, § 49; *Theory of Vision Vindicated*, §§ 9, 10, 15.

type of knowledge, which deals explicitly with spirits, mental operations, and relations. What he says of this kind of knowledge is fragmentary, in the sense that it is both disconnected and defective. In the *Principles* he does indeed distinguish knowledge of spirits from knowledge of ideas, but without making very clear wherein the difference consists. From the first, however, it was obvious to him that, if all knowledge is sense-knowledge, then knowledge of spirits and selves, of laws and relations, is impossible. But he believes in the existence of spirits and relations; and, as whatever exists must be knowable, it follows that we must be able to cognise spirits and relations *somewhat*. Now, since we do not, as a matter of fact, perceive spirits or relations, our knowledge of them must be other than sense-knowledge. Hence it is absurd to wish, as Locke did, for a new sense by which to perceive spirit, for a new sense could give us nothing but sense-knowledge, and sense-knowledge could never be adequate to reveal the nature of that which is supra-sensible.¹ But though we have, and can have, no idea of spirit, it is not absolutely unknowable. It has a *meaning*, which is recognised as soon as the name is uttered. "Soul, spirit and substance . . . do mean or signify a real thing."² Our knowledge of spirits and relations is not by way of particular ideas, but by way of universal meanings or notions.

The germs of this theory of a conceptual knowledge of spirits are present in the *Principles*, though the distinctive terminology which he later adopted to express it was unthought of when the *Principles* was

¹ *Principles*, § 136.

² *Ibid.* § 139.

written. Still, even in the *Principles* he distinguishes, as we have seen, two kinds of knowledge—and distinguishes them with reference not only to their objects, but also to the particular way of knowing followed. Knowledge of spirits is differentiated from knowledge of ideas; and, with regard to the method of knowing, a parallel distinction is introduced between rational knowledge and sense-knowledge. But in the *Principles* this distinction is not explained. It is, however, kept in view, and perhaps developed a little, in *De Motu* (1721), where he draws a sharp distinction between *imagination* (defined as "the representative faculty of sensible, or actually existing, or at least possible, things"), and *pure intellect* (which is concerned with spirits, mental operations, relations, and so on).¹ In *Alciphron*² (1732) and in the *Theory of Vision Vindicated*³ (1733) essentially the same distinction is employed, the contrasted terms being either imagination and reflection, or sense and reason, or perception and judgment, or sensation and understanding, the first-named in each case being on the perceptual level, the latter on the conceptual; but no attempt is yet made to work it out, or to develop in any way the theory of conceptual knowledge. By the time the second edition of the *Principles* was published (1734), he had entirely abandoned his early design to write in detail on knowledge of spirits⁴; consequently, when he revised the *Principles* for the second edition, he simply added two or three para-

¹ *De Motu*, § 53.

² *Alciphron*, vii. §§ 11-14.

³ *Theory of Vision Vindicated*, §§ 9-12, 42.

⁴ Cf. *supra*, p. 146 n.

graphs, in which his theory of conceptual knowledge is briefly sketched, and made the few alterations rendered necessary by the new terminology. To the universal element of *meaning* in knowledge he gives the name notion. In the first passage in which the new term is introduced, its relations to his former inchoate theory of universal meanings is evident. "We have some *notion*," he says, "of soul, spirit, and the operations of the mind, such as willing, loving, hating—inasmuch as we know or understand the meaning of these words."¹ Thus, instead of merely saying that spirits have meaning, he now says that we have a notion of spirits. Though the two statements really amount to the same thing, the introduction of the new and distinctive term marks a notable step in the direction of a systematic theory of universal knowledge of spirits.

What suggested to Berkeley that the term notion should be used to signify the universal element in knowledge? In the philosophical writings of his contemporaries no word is used more frequently or more vaguely than notion. It is the most indeterminate term in an age when looseness and ambiguity of language was the rule rather than the exception. And Berkeley himself uses it quite as freely and ambiguously as his contemporaries. Thus it often appears, in all his chief works, in a popular vague sense.² It may mean any sort of sensation or perception or impression or conception, any

¹ *Principles*, § 27.

² Cf. i. 119, 403, 427, 432, 435, 444, 455, 462, 463, 464, 473, 475, 476, 477, 478, 480, 483; ii. 47, 49, 50, 51, 56, 57, 61, 62, 63, 64, 65; iii. 241, 263, 266, 272, 273, 275, 280, 294.

mental process or content or operation. It is, indeed, perfectly indeterminate.

Hence, in his earlier works, he sometimes uses it as an equivalent of idea, in his special terminology ; so that whatever can be predicated of an idea can be predicated of a notion.¹ And he even goes so far as to say, "It is evident there can be no idea or notion of a spirit."² It is, of course, clear that when he wrote these words he can have had no intention whatever of giving a specialised meaning to notion.

Now, it is possible, I would suggest, that Berkeley was influenced to introduce the term notion in a specialised sense by John Sergeant, the only philosopher of the period, with whose work he was acquainted, to give a determinate and technical significance to the word. This suggestion can hardly be established, since there is no positive evidence for it ; but, on the whole, it seems exceedingly plausible, especially when we bear in mind the similarities which we have already discerned in their writings.

That the question of the nature of the knowledge of spirits troubled Berkeley greatly admits of no doubt. The problem is always shelved, in the *Principles* and *Dialogues*, when we should expect him to say something about it, partly, no doubt, because he intended to treat of it in Part II. of the *Principles*, but mainly because he simply² did³ not know what to say.

Now, in the *Commonplace Book* he states that he does not agree with Sergeant's *Solid Philosophy*, and

¹ Cf. i. 239, 242, 247, 260, 270, 275, 335.

² *Principles*, § 138. This passage was altered in the second edition.

it is just possible that one reason why he abstains from using notion as a technical term in his earlier philosophy is that he did not wish to be obviously beholden to Sergeant. For Sergeant uses the term in a technical and specialised sense, and sharply distinguishes it from idea. In fact, when Berkeley came to introduce the distinction between the terms in his own philosophy, it followed, to a very considerable extent, the lines suggested by Sergeant.

In order to make clear the similarity between their views, we must state Sergeant's exposition of the distinction between ideas and notions ; and, as his book is so rare, it will be well to quote the most important passages verbatim. The general distinction is that ideas are "objects of the fancy," notions "objects of the understanding." Ideas are merely "copies, similitudes, representations, images, pictures, portraiture, phantasms." Notions, on the other hand, though they exist "in the understanding," are the real things as known. "A notion is the very thing itself existing in my understanding."¹ "Notions are the *meanings*, or (to speak more properly) *what is meant* by the words we use : but what's meant by the words is the thing itself ; therefore the thing itself is in the meaning ; and consequently in the mind, only which can mean."²

Sergeant mentions four general criteria to distinguish ideas from notions. (1) "My first criterion shall be the *sensibleness* of the former, and the *insensibleness* of the other. When we shut our eyes, or walk in the dark, we experience we have ideas or images of our way, or of other things we have seen,

¹ *Solid Philosophy*, p. 27.

² *Op cit.* p. 33, cf. pp. 387-8.

in our fancy : and this, without the least labour of ours, or any reflection. And there is also, beyond that, something else in the mind, which tells us of what nature, or what things those are, which appeared superficially to our fancy ; which costs us labour and reflection to bring it into the understanding, so that we cannot get perfect acquaintance with it, unless we *define* it. Nor is this sensible, as the other was, but only intelligible : not superficial or uppermost, but hidden, retruse, and (as we may say) stands behind the curtain of the fancy : nor easy to comprehend at the first direct sight of our inward eye, but costs us reflection, or some pains, to know it distinctly and expressly. Which latter sort, in each of these regards, are those we call simple apprehensions, conceptions, or notions.”¹

(2) “The next criterion shall be this : we find we have in us *meanings* ; now the meanings of words, or (which is the same, taking the word objectively, *what's meant* by those words) are most evidently the same spiritual objects as are our notions, and 'tis impossible those meanings should be the same with ideas or similitudes, but of a quite different nature. Let it be as like the thing as 'tis possible, 'tis not the likeness of it which we aim at in our language : for we do not intend or mean, when we speak of anything, to talk or discourse of what's like that thing, but of what's the same with it, or rather, what that thing itself is. . . . Wherefore the meaning, which is the immediate and proper object of the mind, and which gives us, or rather is, the first notice of the thing, must be of a quite different nature from

¹ *Solid Philosophy*, Preface, § 20.

an idea or likeness of it ; and since there can be no middle between like and the same ; nor any nearer approach or step, proceeding from likeness, towards unity with the thing, but it falls into identity, it must necessarily be more than like it ; that is, the same with it ; which an idea or likeness cannot possibly be.”¹

The remaining two criteria may be stated very briefly.

(3) Ideas, Sergeant says, may be perceived by brutes, for brutes have sense-organs, and knowledge of ideas comes by way of the senses. But brutes have no notions, for notions or meanings belong to the *mind* (as distinct from sense-organs), and brutes have “no spiritual part or mind.”²

(4) Lastly, ideas are always particular. Sergeant argues, as we have seen, that general abstract ideas are impossible. Notions, on the other hand, though they *may* be particular, are naturally universal.³

Now, in all this there is, of course, a great deal of loose or confused analysis ; but from our standpoint the importance of the theory lies not in its soundness or unsoundness, but in its very evident anticipation of Berkeley's distinction between ideas and notions.

For Berkeley is in agreement with Sergeant with regard to all the marks which distinguish notions from ideas. (1) Ideas, for him as for Sergeant, are sensible, while notions are intelligible or conceptual. (2) For both, our notional knowledge is direct and immediate, essentially different from any indirect or mediated ways of knowing. (3) Berkeley also

¹ *Op. cit.* Preface, § 21. ² *Op. cit.* Preface, § 22.

³ *Op. cit.* Preface, § 23.

agrees that the capacity for universal knowledge is a diacritical point which differentiates man from the brutes. (4) And he believes, with the Solid Philosopher, that all knowledge of ideas is particular, whereas notions give us universal knowledge.¹

¹ The differences between the two thinkers are many, and need not be mentioned in detail. But we may draw attention to two points. (a) Sergeant invariably regards ideas in the light of his crude interpretation of Locke's theory, i.e. they are always merely copies or images of real things. Idea for Sergeant thus means pretty much what on Berkeley's theory we have termed an idea-image: he has nothing corresponding to Berkeley's idea-thing. (b) Whereas notional knowledge, in Berkeley's theory, is confined to special classes of objects, e.g. spirits and relations, Sergeant holds that we may have notional knowledge of all existent things. All our real knowledge of things, on his view, comes to us by way of notions.

The term notion is also used in a highly technical sense by another little-known philosopher of the day, Richard Burthogge, who published in 1696 his *Essay upon Reason and the Nature of Spirits*. To show the drift of his theory, which assigns a quite different meaning to notion from that which it bears in Berkeley and Sergeant, a sentence or two may be quoted from this rare Essay. There is no evidence that Burthogge's work was known to Berkeley.

"As the eye has no perceivance of things but under colours, that are not in them (and the same with due alteration must be said of the other senses), so the understanding apprehends not things, or any habitudes or aspects of them, but under certain notions, that neither have that being in objects, or that being of objects, that they seem to have; but are, in all respects, the very same to the mind or understanding, that colours are to the eye, and sound to the ear. To be more particular, the understanding conceives not anything but under the notion of an entity, and this either a substance or an accident, or the like; and yet all these things and the like are only entities of reason conceived within the mind, that have no more any real true existence without it than colours have without the eye, or sounds without the ear.... Things are nothing to us but as they are known by us.... In sum, the immediate objects of cogitation, as exercised by men, are *entia cognitionis*, all phenomena; appearances that do no more exist without our faculties in the things themselves, than the images that are seen in water, or

But, it may be said, what really are notions? It is easier to say what they are not than what they are. It is clear, in the first place, that they are not ideas. Though in Berkeley's earlier work idea and notion are used synonymously, as soon as the special doctrine of notions is suggested, he takes pains, as we have seen, to make clear that notions differ from ideas, whether ideas be regarded as presentations or representations.

Are notions, since they deal with universal relations, to be conceived as *abstract ideas*? This interpretation of Berkeley's notions has been advanced by Georges Lyon,¹ who bases it not so much on any definite statement of Berkeley's as on the argument that it is the only thing that he could have meant. But Berkeley really makes it clear that, whatever he meant, he did not mean that. For he allowed his attack on abstract ideas to stand side by side with his new doctrine of notions, and it is therefore clear that he cannot have intended to identify notions and abstract ideas. He showed inconsistency on many occasions, but he is never guilty of such a glaring "repugnancy" as is involved in the assumption that he identified notions and abstract ideas. For he reprinted, without modification, his

behind a glass, do really exist in those places, where they seem to be."

Thus our knowledge "does not enter us into the knowledge of the reality itself (may I so express it) of that which is, which we only apprehend inadequately under the disguise and masquerade of notions. We apprehend not any at all just as they are, in their own reality, but only under the top-knots and dresses of notions which our minds do put on them." (*Essay on Reason and the Nature of Spirits*, III. i. 57 ff.)

¹ *L'Idéalisme en Angleterre*, p. 341.

criticism of abstract ideas, in the second edition of the *Principles*, in which he introduced, for the first time, the doctrine of notions.

Another interpretation of the meaning of notion has been suggested by Edmund Husserl.¹ Berkeley's notions, says Husserl, are identical with Locke's Ideas of Reflexion, and include both the Simple Ideas of Reflexion and the Complex Ideas of Reflexion. But while this comparison is suggestive, the statement that the two doctrines are identical is misleading. Notions resemble Locke's Ideas of Reflexion in so far as both are concerned with "the notice which the mind takes of its own operations";² but notions are more restricted in their comprehension than Ideas of Reflexion. For Ideas of Reflexion include perception; and their source is a sense, though an internal one. But Berkeley consistently differentiates notional knowledge from perception; notions have no connection at all with any sense. Thus notions cannot be regarded as identical with Locke's Ideas of Reflexion.

All that Berkeley himself justifies us in saying positively about notions may be stated very briefly. The notion is a concept or universal, present to the mind, and having as its objects (a) spirits, (b) mental operations, and (c) relations. Now, all these objects of notional knowledge are, in Berkeley's view, mental or spiritual. For (a) spirits are minds, (b) mental operations are the acts of minds, and (c) relations always include an act of mind.³ Spirits, mental operations, and relations are all ult-

¹ *Logische Untersuchungen*, ii. 176. ² *Locke, Essay*, ii. i. 4.

³ *Principles*, § 142.

mately of the same nature, and that is mental or spiritual.

Further, these objects of notions, though they are not themselves ideas, and though ideas cannot be the objects of notions, are all essentially concerned with ideas. For (a) it is the essence of spirit to perceive and cause ideas, (b) it is the essence of mental operations to be "acts about ideas," and (c) it is the essence of relations to be "between ideas."¹ Ideas, then, though they cannot be the objects of notions, may be the objects of the objects of notions, for an idea is the object of a mind, and a mind is the object of a notion.

To sum up. The important thing about the notion is its universal and conceptual character. Berkeley always asserts that of such objects as spirits, mental operations and relations we can have no perceptual knowledge; hence, if we are to know them at all, our knowledge must be notional or conceptual. Thus, he consistently sharply differentiates the sensational and perceptual knowledge which we have of things from the notional and conceptual knowledge which we have of spirits.

A similarly sharp distinction is drawn by Berkeley between the *existence* of things and the *existence* of spirits. The nature of spirits, in his view, differs *toto coelo* from that of things; and our account of their way of existence must accordingly follow different lines. In the next two sections we shall state and examine his doctrines of the Existence of Things and the Existence of Spirits.

¹ *Ibid.* § 89.

III. THE EXISTENCE OF THINGS.

Berkeley believes firmly in the existence and reality of the world of things. "By the principles premised," he says, "we are not deprived of any one thing in nature."¹ "Whatever we see, feel, hear, or anywise conceive or understand, remains as secure as ever, and is as real as ever. There is a *rerum natura*."² With regard to his belief in the reality of things he is at one with most previous philosophers. Where he differs from his predecessors is in the interpretation he puts upon the meaning of reality.

X
It had previously been held by many philosophers that the reality of things depends on the support of a material substratum. "The reality of things," says Hylas, the defender of materialism in the *Dialogues*, "cannot be maintained without supposing the existence of matter."³ Thus, before Berkeley can establish his own view of reality, he must remove this erroneous conception of matter as the substratum of reality.

His attack on matter is perhaps the most serious task he ever undertook; and in the criticism of materialism he enters into considerable detail. He does not himself classify the various views of matter which he examines, but they may be reduced to three main heads. (1) According to the first theory, matter is immediately perceived. (2) On the second view, matter is not perceived, but is inferred to be either, (a) like our ideas, though imperceptible, or (b) unlike our ideas, but the cause of them, or (c) the

¹ *Principles*, § 34.

² *Ibid.* § 34.

³ *Dialogues*, i. 439.

instrument of our ideas, or (d) the occasion of our ideas. (3) And according to the third main theory, matter is simply postulated as an unknown but indispensable Somewhat. We shall examine, in order, Berkeley's criticisms of each of these doctrines.

(1) Matter, according to the first theory, though absolute and permanent, is capable of being immediately perceived. And, it is argued, since it is immediately perceived, we have direct evidence of its existence.

To this argument Berkeley replies by examining what actually takes place when we say that we perceive a thing. Suppose I say that I see a cherry. What is it that I am really sensible of? I have certain sensations, Berkeley says, of softness, moisture, redness, and tartness—and that is all. "A cherry, I say, is nothing but a congeries of sensible impressions, or ideas perceived by various senses."¹ In our perception of the cherry we never have any sensation of matter; and we conclude that, whatever matter may be, it is certainly not immediately perceptible.

Again, if matter were perceptible, our actual perceptions would not vary as they do; for matter is always regarded as stable and permanent. Now, the sensations which we actually experience in perceiving an object vary from time to time according to the light in which the object is seen, the position from which we perceive it, and the distance we are from it. And, Berkeley argues, if the sensible qualities of which we are aware were really material,

¹ *Dialogues*, i. 469.

these variations in sense-experience would be impossible, because matter is *ex hypothesi* absolute and immutable.

Further, to draw a positive inference from what has been said, it is clear that as a thing, *e.g.* a cherry, is nothing but a combination of ideas, the thing must be mental, in the sense that its existence depends on the mind. Now, matter and mind are mutually exclusive ; if, then, the thing is mental, it cannot be either material or dependent upon matter.¹

On all these grounds Berkeley therefore holds that the first theory of matter is untenable. Matter is not known immediately by sense-perception. Now, if matter is to be known at all, Berkeley says, it must be cognised in one of two ways ; it must be known either immediately by sense-perception, or mediately by a process of inference.² We have already established that it cannot be known immediately, and we must now consider the arguments by which endeavours have been made to prove that it may be inferred to exist.

(2) If we infer matter to exist, various views of its nature are possible.

(a) According to the first variety of this materialist doctrine, matter may be inferred to be like our ideas. Even if we admit, the materialist argues, that matter is imperceptible, there may exist material entities corresponding with, and similar to, the ideas that we actually perceive ; and these material entities guarantee the regularity and self-consistency of the

¹ Berkeley's positive theory of the mind-dependent reality of things will be examined in detail later.

² *Dialogues*, i. 435.

groups of sensations which we experience under determinate sets of circumstances.

Against this view Berkeley brings two objections. (i) He points out that it is universally acknowledged, even by materialists, that our sensations, differing according to the conditions under which we are affected, are exceedingly variable. If, then, as the materialist assumes, the material thing resembles the idea, it must at one and the same time, while still remaining the same material thing, be like several dissimilar ideas. And that, Berkeley holds, is a contradiction in terms.¹ (ii) He argues, further, that since we perceive only our own ideas, or are aware only of our own sensations, matter, if it exists, cannot be like these ideas or sensations. For a sensation cannot be similar in nature to what is *ex hypothesi* ultimately insensible. It is contradictory, he urges, "to assert a colour is like something which is invisible ; hard or soft, like something which is intangible ; and so of the rest."² An idea of sensation cannot be like what is not an idea of sensation. Contrariwise, what is given as insensible, *i.e.* matter, cannot be like a sensation. "Can a real thing," he asks, "in itself *invisible*, be like a *colour* ; or a real thing, which is not *audible*, be like a *sound* ?"³

For both these reasons he concludes that matter cannot be like our ideas.

(b) We have now proved that (1) matter is not perceptible, and (2a) it is not like our ideas. But the materialists maintain that matter, admitted now to be both imperceptible and unlike ideas, may yet be the cause of them. With a view to examining

¹ *Dialogues*, i. 417. ² *Principles*, § 8. ³ *Dialogues*, i. 418.

this theory, Berkeley puts a clear statement of it in the mouth of Hylas. "I find myself," says Hylas, "affected with various ideas, whereof I know I am not the cause; neither are they the cause of themselves, or of one another, or capable of subsisting by themselves, as being altogether inactive, fleeting, dependent beings. They have therefore *some* cause distinct from me and them: of which I pretend to know no more than that it is *the cause of my ideas*. And this thing, whatever it be, I call Matter."¹

Against this view Berkeley brings two criticisms. (i) Matter, he urges, cannot be a cause at all. The matter against which he argues is always conceived by him, in common with his contemporaries, to be necessarily and by definition "inert," "passive," and "inactive." And it is impossible that what is inactive should be a cause, for that would involve the contradiction in terms that the inactive is active. (ii) But, even if matter could be a cause, it could not be a cause of ideas. For by definition, and here again he is following the consensus of the time, matter is "unthinking." The material is, in other words, exclusive of the mental. If the "unthinking" could be a cause, it would be a cause only of unthinking things. Hence it could not be the cause either of minds or of ideas, both of which are "thinking," in the sense that they are either spirits or dependent on spirits.² Matter, then, he concludes, being inactive, cannot be a cause; and, being unthinking, cannot be a cause of ideas.³

¹ *Dialogues*, i. 429.

² Note that ideas are "thinking" only in the sense that they are perceived by thinking spirits.

³ *Dialogues*, i. 430.

But even admitting that the causal theory of matter, like those which we have already examined, is untenable, it is still open to the materialist to maintain either the instrumental or the occasional theories of matter.

(c) "Though matter may not be a cause," says Hylas, "yet what hinders its being an instrument, subservient to the supreme Agent in the production of our ideas?"¹ Berkeley's answer is that such a material instrument would be quite useless to God. Analysing the meaning of instrument, he finds it to be something which we use to assist us in doing those things which cannot be performed by a mere act of will. I do not normally employ an instrument to move my finger, because I can do that by simple volition. But I use an instrument to cut down a tree, because I cannot achieve that result immediately by a mere act of will. Now, everything in the world, Berkeley believes, is in a relation of absolute and immediate dependence on God, who is able to perform all his operations in and on the world by simple volition. And as God does not need a material instrument with which to produce his effects, the principle of parsimony justifies us in holding that it is non-existent.

(d) The criticism of the occasional view of matter follows precisely the same lines.² He shows that an occasion, as defined by materialism, i.e. "an inactive, unthinking being, at the presence whereof God excites ideas in our minds," is not needed for the fixed and regular production of effects by God;

¹ *Dialogues*, i. 431.

² *Dialogues*, i. 433-4; cf. *Principles*, §§ 68-69.

and, since the material occasion is unnecessary, Occam's Razor may be applied to cut it away altogether.

(3) And now we come to the materialist's last ditch. Having been driven from all his previous positions the materialist may take refuge in the conception of matter as an utterly unknown and indefinable quiddity, wholly without attributes and qualities. He may "stand to it that Matter is an unknown Somewhat—neither substance nor accident, spirit nor idea—inert, thoughtless, indivisible, immoveable, unextended, existing in no place."¹

For use against this last despairing conception of matter Berkeley has still plenty of shot in his locker. (i) He points out, in the first place, that such an "obscure idea of somewhat," which cannot be perceived, of which nothing can be predicated, and which can perform no function, differs not at all from *nothing*.² (ii) And, if the materialists urge that matter, as above defined, gives us the positive conception of quiddity, entity, or existence, Berkeley argues that this positive conception is a mere abstract idea, and as such is open to all the criticisms which he has already brought against the general theory of abstract ideas. Again, therefore, it seems that matter means *nothing*.³ (iii) Further, those who maintain this view constantly assume, in effect, that they know something, however little, about matter; and any plausibility the theory possesses springs from the fact that its supporters tacitly presuppose that the matter which they postulate has some qualities, however indefinite, and

¹ *Principles*, § 80.

² *Principles*, § 80.

³ *Principles*, § 81.

is thus in some way known.¹ And, Berkeley urges, if matter exists, it must either be known or unknown. If it is absolutely unknown, and there is no necessity to postulate it, we may safely take it to be non-existent. If, on the other hand, it *is* known, it must fall under one or other of the conceptions of matter already considered; and, as he believes that he has disproved *all* these theories, and that his criticism is thus absolutely exhaustive, it follows that he regards as irrefutable the conclusion that matter is non-existent.

Lastly, and in some ways this is Berkeley's most fundamental criticism of materialism, the conception of a material substance involves a regress *ad infinitum*. What we perceive, e.g. an extended object, is said by the materialists to rest upon a material substratum. But this material substratum must itself be extended in order to support the extended object; and, as it is extended, we must postulate another material substratum to support it; and so on *ad infinitum*.² To this the materialists might rejoin that, though the material substratum supports extension, it is not itself extended. Berkeley's answer to this argument would be that, if the view of the materialist apologists were persisted in, it would reduce matter, in the last resort, to the vague conception of a qualitiless Somewhat which may be shown, as we have just seen, to be indistinguishable from nothing-at-all.

Throughout this whole criticism of materialism, which really forms the burden of all his works, Berkeley has presupposed two general canons, which

¹ *Principles*, § 16.

² *Dialogues*, i. 409.

he states thus: (I) "Strictly speaking, to believe that which involves a contradiction, or has no meaning in it, is impossible."¹ (II) "It is to me a sufficient reason not to believe the existence of anything, if I see no reason for believing it."² Applying these axioms to the problems of matter, we find that, as matter, conceived in any positive way, has been proved to be either self-contradictory or unmeaning, it is impossible; and since, when conceived in the negative form of "an obscure idea of somewhat," there is no reason to believe it, we have a sufficient reason for *not* believing it. Matter, then, cannot be in any sense the ground of reality.

But Berkeley is convinced, as we have mentioned, that reality does exist; and he must therefore look for its ground elsewhere than in matter. Now, as existence is either material or spiritual, the basis of reality must be found, if anywhere, in spirit or mind. The real significance, for his own theory, of the criticism of matter lies in the conclusion that, as matter is the only possible non-spiritual ground of the existence of things, and as matter, regarded in every possible way, has been shown to be non-existent, the only real ground of the existence of things is spirit.

According to Berkeley's own theory of reality, the existence of things depends on spirit in the double sense, (*a*) of being perceived by spirit, and (*b*) of being caused by spirit. We shall now state, in detail, the arguments by which he reaches this conclusion.

Starting with the ordinary things of common sense, with which we come in contact every day,

¹ *Principles*, § 54.

² *Dialogues*, i. 432.

Berkeley proves that their existence consists in being perceived. "Wood, stones, fire, water, flesh, iron, and the like things, which I name and discourse of, are things that I know. And I should not have known them but that I perceived them by my senses; and things perceived by the senses are immediately perceived; and things immediately perceived are ideas; and ideas cannot exist without the mind; their existence therefore consists in being perceived."¹

This conclusion is proved in detail in the first of the three *Dialogues* and in the *Principles*. Berkeley reduces the thing to its component elements, and shows that each and all of these consist in being perceived. A thing is nothing but an aggregate of sensible qualities, and, if we can show that none of these can exist apart from perception, we shall have proved that the existence of the thing itself consists in being perceived.

The qualities of things had been distinguished by Locke, Descartes, and others into two classes, called respectively primary and secondary. Primary qualities comprise extension, figure, motion, rest, solidity, and number; all others, e.g. colours, tastes, sounds, and the like being termed secondary. According to the distinction previously accepted, primary qualities exist *in* the things, though secondary ones do not; so that a red billiard ball that we perceive is in itself, apart from our perception, extended, figured, solid, and at rest; but it is not in itself coloured, for its colour depends on perception.

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¹ *Dialogues*, i. 446.

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THEORY OF KNOWLEDGE

Berkeley proves that their existence consists in being perceived. "Wood, stones, fire, water, flesh, iron, and the like things, which I name and discourse of, are things that I know. And I should not have known them but that I perceived them by my senses; and things perceived by the senses are immediately perceived; and things immediately perceived are ideas; and ideas cannot exist without the mind; their existence therefore consists in being perceived."¹

This conclusion is proved in detail in the first of the three *Dialogues* and in the *Principles*. Berkeley reduces the thing to its component elements, and shows that each and all of these consist in being perceived. A thing is nothing but an aggregate of sensible qualities, and, if we can show that none of these can exist apart from perception, we shall have proved that the existence of the thing itself consists in being perceived.

The qualities of things had been distinguished by Locke, Descartes, and others into two classes, called respectively primary and secondary. Primary qualities comprise extension, figure, motion, rest, solidity, and number; all others, e.g. colours, tastes, sounds, and the like being termed secondary. According to the distinction previously accepted, primary qualities exist *in* the things, though secondary ones do not; so that a red billiard ball that we perceive is in itself, apart from our perception, extended, figured, solid, and at rest; but it is not in itself coloured, for its colour depends on perception.

This distinction between primary and secondary

¹ *Dialogues*, i. 446.

qualities was questioned by Berkeley. He agrees that secondary qualities have no existence apart from perception, but he maintains, in addition, that the existence of all primary qualities also consists in being perceived. All the arguments by which the mind-dependent existence of secondary qualities had been supported apply also, in his judgment, to primaries. That such qualities as heat and cold are mind-dependent is agreed on the ground that, as a body may appear hot to one hand and cold to the other at one and the same time, and as it is self-contradictory to suppose that the body in itself, apart from perception, is both hot and cold simultaneously, we must conclude that these qualities are in the body only when it is being perceived. Similarly, he argues, we may prove that such so-called primaries as extension and motion do not really exist in the extended moving objects, apart from perception. For the extension of one and the same object appears different to the same eye in different positions, and to different eyes in the same position. Such variation in the extension of a body would not be possible, he urges, if the extension were really in the body ; and we must conclude that its extension, like its colour, depends on being perceived. And, as what is true of extension is true also of all other so-called primary qualities, we may say that *all* the qualities of bodies are dependent for their existence on being perceived ; and further, since things are nothing but the collections of their qualities, they are thus proved to be wholly dependent on perception.¹

Now, all that Berkeley has said with regard to the

¹ *Principles*, §§ 9-15 ; *Dialogues*, i. 382 ff.

variability of primary and secondary qualities might be admitted, and yet it could be argued that, though qualities are relative to perception, they are *caused* by something not dependent on perception. With this, so far, Berkeley agrees. But, he urges, the real question is, Of what nature is this cause ?¹ Now, the cause cannot be material, for we have already proved that matter is non-existent and impossible ; and, as everything that is is either material or spiritual, the cause must be spiritual. The cause of the reality of things is mind or spirit.²

Thus, it is not a complete account of the reality of things to say that their *esse* is *percipi*. We must say also that their *esse* consists in being caused. Reality consists (*a*) in being perceived, (*b*) in being caused, by spirit.

Such, in outline, is Berkeley's doctrine of the reality of things. In order to fill in this bare sketch, it will be convenient to consider the theory in reference to three problems of great difficulty, (1) the externality of things, (2) the permanence of things, and (3) the distinction of Appearance and Reality.

(1) If things are nothing but combinations of ideas, in what sense, if any, are we justified in regarding them as external ? It might be objected at once that, on Berkeley's view, all externality should be denied to things, since they are always taken by him to be (*a*) "ideas," and (*b*) "in the mind," and neither of these expressions seems at first sight to be compatible with externality. Let us, then, examine what Berkeley means (*a*) by calling things

¹ *Dialogues*, i. 430, 437.

² *Principles*, § 26.

ideas, and (b) by speaking of their existence in the mind.

(a) He admits that he is breaking with convention in calling things ideas : "It sounds very harsh to say we eat and drink ideas."¹ But if we refuse to be misled by words, he says, and consider what we really mean, we shall recognise that, as what we eat and drink is nothing but the immediate objects of sense, there is no absurdity in saying that we eat and drink ideas. Though he often conforms to custom and speaks of things, he prefers to term them ideas ; and that for two reasons. In the first place, the customary linguistic associations of the word thing suggest that it necessarily denotes "somewhat existing without the mind." And since for Berkeley, as we have seen, the essence of thinghood is its existential dependence on mind, he thinks it best to call things ideas, for ideas are universally admitted to be mind-dependent.² In the second place, "idea" denotes more exactly than "thing" what Berkeley means. The word thing, as commonly used, may include spirit (*res cogitans*) as well as the class of things which he terms ideas. Now, it is essential for his view to distinguish sharply between spirits and *mere* things (what he calls ideas); and to avoid misapprehension it is best, he avers, to speak of spirits and ideas as the constituents of existence.³

(b) Ideas or non-spiritual things exist, as Berkeley always says, "in the mind." How is this consistent with their externality ? It must be pointed out, in the first place, that in saying that things exist only

¹ *Principles*, § 38. ² *Dialogues*, i. 453. ³ *Principles*, § 39.

in the mind, he does not mean to suggest that they actually have their locus within the ego, or that they are particular psychical existents falling within the mental process of an individual mind. The phrases "in the mind" and "without the mind" are apt to suggest spatial considerations, for they seem to indicate that mind is a sort of receptacle, "an empty casket" in Locke's terminology, into which ideas may or may not be put. But when Berkeley speaks of mind he means mind, and not brain. "When I speak of objects as existing in the mind, or imprinted on the senses, I would not be understood in the gross literal sense; as when bodies are said to exist in a place, or a seal to make an impression upon wax. My meaning is only that the mind comprehends or perceives them."¹

In other words, when we say that a thing exists in the mind, all we mean is that it exists, not in the brain, but in the subject-object relationship.² The existence of things consists in being in mind in the sense that they are in relation to mind. And when he insists that nothing exists "without the mind," he means that the subject-object relation is universal, and that nothing can exist apart from this relation. To put the same thing otherwise, "without the mind" means *sine mente* rather than *extra mentem*. "No mind, no thing" epitomises Berkeley's philosophy. Everything in the world is necessarily, *qua* existent, in the mind-idea or spirit-thing or subject-object relationship.

So far, we have been arguing that there is no reason why Berkeley's idea-things should *not* be

¹ *Dialogues*, i. 470.

² *Dialogues*, i. 453; cf. i. 455.

called external ; and now we have to show, in addition, that there are *positive* reasons why they should be termed external.

(i) Idea-things may be regarded as external in the sense that they are objective. They fall on the objective side of the omnipresent subject-object relationship : they are "objects of the understanding."¹ And he insists that so far is he from subjectifying things that he is really objectifying ideas. "I am not for changing things into ideas," he says, "but rather ideas into things."²

(ii) Things are external also in the sense that they fall outwith the real personality of the self. He believes that personality is centred in the will. Now, my perceptions do not depend on my will, for, when I look at a mountain in daylight, if my sense of vision is normal, I must have certain groups of sensations and no others. So long as my eyes are fixed on the mountain I cannot help having these sensations. Ideas, then, are independent of my will, and therefore external.³

(iii) Things are external to the individual percipient with respect to their cause or origin. A finite spirit, as we have seen, cannot manufacture its ideas of sense ; for they are not generated by the mind itself from within, "but imprinted by a Spirit distinct from that which perceives them."⁴ All ideas of sense are caused by God, and are thus external to the finite mind which is aware of them.

(iv) Berkeley even suggests twice⁵ that, consistently with his principles, we may postulate "an

¹ *Dialogues*, i. 471. ² *Dialogues*, i. 463. ³ *Dialogues*, i. 458.

⁴ *Principles*, § 90 ; cf. *Dialogues*, i. 470. ⁵ *Dialogues*, i. 468, 458.

external archetype" of our ideas. Such archetypes will be external to finite minds, and exist eternally in the mind of God. They must be external to *my* mind, for otherwise they would not be archetypes ; but still they are regarded as ideas, and have their existence as Ideas (with a capital) in God's mind.

(v) Finally, ideas that I am not actually perceiving at the moment may be called by me external in the sense that they do not exist in my mind, though they do exist in the mind of God, and possibly also in the minds of other finite spirits.¹

On all these grounds, then, we are justified in saying that things, though called ideas and existing only in the mind, preserve their externality.

(2) But suppose we admit, it may be argued, the externality of things, can we maintain their permanence ? Things may be external to the finite mind in the senses enumerated above, and yet not be permanent and self-consistent. If a thing is not actually being perceived by me, in what sense does it actually exist ? To this question Berkeley suggests more than one answer.² A thing not actually being perceived by me may be said to exist in the sense (a) that if I were in a position to perceive it I should perceive it, or (b) that it is actually being perceived by some other finite spirit, or (c) it is being constantly perceived by God. But though these grounds of permanence are all suggested by Berkeley, he does not press the first two solutions, for it is possible to imagine a thing in a position where it is not being perceived by any finite spirit, and where it could not be perceived by any finite spirit ; and

¹ *Principles*, § 90.

² Cf. *Principles*, §§ 3, 6, 48.

even if it could be perceived under appropriate conditions, it is self-contradictory to make the *actual* permanent reality of a thing consist in the continuous *possibility* of being perceived. In the end, therefore, he is content to assert that the permanence of things is guaranteed by their continuous existence in the mind of God.¹

But it is not enough that they should simply be perceived by God. They must also be willed or caused by him. It is only because things are not produced by the capricious wills of finite beings, but are created in a fixed and uniform order by the eternal will of God, that they are really self-consistent and permanent.

The introduction of God's creative activity gives rise, however, to a fresh difficulty. By the permanence of things, on this theory, do we mean anything more than the constant creation by God of *similar* things? Do the *same* things really persist, or is God continually in process of creating similar things to take the place of those that are every moment being annihilated?

In connection with this problem Berkeley once or twice suggests the Scholastic view that things are in an unending process of annihilation and re-creation, and that, apart from this "constant creating," there is no permanence. "There is a Mind," he says, "which affects me every moment with all the sensible impressions I perceive."² When I gaze at a house, the same house does not really continue to exist, but God causes a constant succession of similar impressions which affect my mind.³

¹ *Dialogues*, i. 452.

² *Dialogues*, i. 428.

³ *Principles*, § 46.

The permanence of the physical order is thus equivalent to a constant creation of particulars by a benevolent God who in this way displays his power and providence.¹ But though this doctrine is suggested by Berkeley, he is of opinion, on the whole, that a creationism of this sort is inadequate to guarantee the permanence of things.

He therefore advances what he regards as a more satisfactory theory, and holds that things have a really and absolutely permanent existence in the mind of God. They are not created from time to time by God; they are created once and for all, and continue to exist perpetually in the mind of God.² On the other hand, it is obvious that from the human standpoint things are continually perishing and coming into being again. To harmonise these two truths (for he regards them both as truths) he has recourse to a distinction between absolute and relative existence.³ "When things are said to begin or end their existence, we do not mean this with regard to God, but His creatures. All objects are eternally known by God, or, which is the same thing, have an eternal existence in His mind: but when things, before imperceptible to creatures, are, by a decree of God, perceptible to them, then are they said to begin a relative existence, with respect to created minds."⁴

¹ *Alciphron*, iv. § 14.

² Berkeley expressly dissociates himself from Malebranche's doctrine of "Seeing all things in God," *Dialogues*, i. 426.

³ Berkeley elsewhere denies that things have an absolute existence. But the kind of absolute existence he has in view there is existence independent of God. And he would still agree that absolute existence in that sense is an impossibility. Cf. *Principles*, § 24.

⁴ *Dialogues*, i. 472.

Now, even if this distinction between relative and absolute existence were accepted, it would solve only one of Berkeley's difficulties.

For the solution of the other difficulty he would need to introduce a distinction between relative existence and potential relative existence. The body of a man, for instance, has, on his view, a relative existence. But it has this relative existence only when it is actually being perceived by man. Berkeley would have to say that its existence when it is not actually being perceived by man is potentially relative. Though not actually being perceived, it is capable of being perceived. This potential relative existence clearly differs from absolute existence. Things have an absolute existence in the mind of God, but in addition to this they have a relative existence only when they are capable of being perceived by man. When they are not actually being perceived, they have a potential relative existence, and when they are being perceived an actual relative existence.

The root of the whole difficulty is the assumption of God as the cause of the permanence and reality of the world. But if we start, and on Berkeley's psychological method we must start, with our own ideas, presentations actually present to us, we could never have any reason to expect them to exist otherwise than as actually presented to us. And even if we suppose them also to exist in the mind of God, how do we know that as presentations in my mind and presentations in God's mind they are the same? The presumption seems to be decidedly against such an identification. We know that the sense-experience

of animals differs among themselves and also differs as between them and men. The actual perceptions of various animals vary according to the number and structure of their organs of sense. The dog's world, for instance, differs from my world. As Mr. Bradley has pointed out, the dog's judgment is probably "What smells is real." As the world of man differs from the world of the lower animals, it would be natural to expect that man's world will differ from God's. For, whereas all our ideas are sense-impressions, none of God's are. "God perceives nothing by sense as we do,"¹ for he cannot be affected with any sensation at all. "God knows, or hath ideas; but his ideas are not conveyed to him by sense, as ours are."²

If, then, God's ideas differ from ours so radically, what justification is there for asserting that when an idea is not being perceived by me *it* is being perceived by God? The *it* that is perceived by God is different from the *it* that is perceived by me. It is not the same *it* that remains permanent. Its absolute existence in the mind of God is permanent, but its relative existence in my mind is a process of constant annihilation and re-creation, and the process in my mind differs from the processes in the minds of other men for whom it exists.

Our criticism of Berkeley might seem to be, so far, on the merely psychological level. But the argument cuts deeper than that. For he is forced to assume ultimately two orders of existence, which are taken to be in constant correspondence. The first order is the "archetypal and eternal," which

¹ *Dialogues*, i. 459.

² *Ibid.* i. 459.

has existed from everlasting in the mind of God, the second is the "ectypal or natural," which is in process of constant creation. Now, the archetypal order is perceived by God, but is imperceptible to man; and the ectypal is that which is caused by God, and perceived by finite spirits. Thus we know that the particular things or ectypes that we perceive are caused by God, but are not perceived by him, though they correspond with the archetypes which he does perceive. Ultimately, then, what we mean by the permanence of things is that (a) they are in process of constant creation by God in our minds, and (b) they correspond with eternally existent archetypal Ideas in God's mind. In this way Berkeley brings together, at the cost of introducing a dualism into his theory, his two views of the nature of permanence.

It is fairly clear that in the course of his argument Berkeley has been forced to change completely the meaning of his fundamental principle. At the beginning of his psychological enquiry, "*esse* is *percipi*" means that presence in my experience, so long as it lasts, is a sufficient account of the existence of a thing. But the difficulties we have mentioned have forced him away from that position. The existence of a thing must mean more than mere presentation in my experience, for simple experiments prove that it exists even when I do not perceive it. He is thus gradually compelled to hold that the existence of a thing, even while I am perceiving it, is not exhausted by its presentational existence in my mind. Hence, whether I am actually perceiving a thing or not, *esse* is *percipi* in

his first sense is untrue. If, then, the dictum is to be retained, a new meaning must be given to it. It must now be interpreted to mean that a thing exists really and completely only as a presentation in God's experience.

From this alteration in meaning a sinister conclusion follows. Since real existence is exclusively presentation in God's experience, presentations in my finite mind cannot be ultimately real, for presentation to finite minds implies only relative and ectypal existence. What finite persons know is thus not real reality but relative reality. Such a conclusion was extremely unpalatable to Berkeley, and he never explicitly drew it himself. But none the less it certainly is a consequence of his theory that finite persons are debarred from knowledge of that complete and archetypal reality which is known to God alone.

(3) Are we then to conclude that finite persons can know nothing but appearance? Though this conclusion seems to follow from what we have just been saying, Berkeley never acknowledges it. He always maintains that we do know reality. But this reality, it must be remembered, can be nothing more than ectypal reality; for it is not the perfect reality of which God is aware. For most purposes that reality is simply left out of account by Berkeley; and the distinctions he does draw between appearance and reality all imply that reality means the concrete things or collections of ideas caused in our minds by God.

The distinction between the real and the apparent is based on two principles. In the first place, ideas

which are real things, *i.e.* presentations, are perceived with greater steadiness, vividness, order, and regularity than those which are merely images or representations. Reality is distinguished from the unreal and apparent by the vividness and steadiness with which it appears in consciousness. Berkeley admits that it may be said that this distinction is merely relative, presentations having "more reality" in them than representations. But in addition to this relative ground of distinction he mentions one which is absolute. The difference between presentations and representations, the real and the apparent, things and chimeras, depends on the *cause* of the ideas. If ideas are caused by finite spirits, they may be chimeras or fictions of fancy, and at the best are merely representations, copies, or images of the real thing. Real things are caused, not by finite spirits, but by the one Infinite Spirit. Thus the distinction between the real and the apparent is suggested by the vividness and steadiness of ideas, and is confirmed by the cause of ideas.

Berkeley's theory of the existence of things involves, it is clear, a conception of degrees of reality. The mental images which finite spirits cause have less reality than the ectypal ideas which finite spirits perceive and God causes; and the ectypal ideas, in turn, are less real than the archetypal ideas which God knows.

So far, we have been dealing with the permanence and reality of things or ideas, and not of the spirits on which ultimately they depend for what reality they have. But the conclusions which we have reached raise further problems. Granted that the

permanence of things depends on spirits, on what does the permanence of spirits depend, and in what sense are we justified in believing in their reality? To the examination of this question (it is the culminating point of our enquiry) we now proceed.

IV. THE EXISTENCE OF SPIRITS

In order to account for the permanence and reality of the physical world Berkeley assumes the existence of spirits. He does not strictly prove their existence, and the arguments he does advance show that an explicit proof would proceed on different lines, according as the existence to be established is my own, that of other finite selves, or that of the Infinite Spirit.

My own existence, he holds, requires no proof, for I am intuitively aware of it: "We comprehend our own existence by inward feeling."¹ In two ways our own immediate experience guarantees the existence of the self. In the first place, I am immediately aware of the existence of my ideas of sense *as mine*. I know that I do not cause them, but I know that it is I who perceive them.² Again, I have an immediate feeling-consciousness of *activity*, for I know that (a) I cause my mental images, and (b) I exercise productive operations, by means of volition, in the world. My own experience, then, both perceptual and volitional, assures me of the existence of my self *immediately*.

The existence of other spirits, on the other hand,

¹ *Principles*, § 89.

² *Dialogues*, i. 447.

whether finite or infinite, is not immediately evident, but is an *inference* from experience. The general lines of the argument for the infinite spirit and for finite spirits are very similar; but there are certain significant differences which render it advisable to consider them separately.

The argument in favour of the existence of an infinite spirit as the cause of our ideas is outlined by Berkeley in the *Principles*,¹ and may be more systematically restated thus: (1) I am immediately aware of a continual succession of ideas. (2) There must be some cause of these ideas. (3) Now, *a priori*, there are three and only three conceivable causes of an idea, viz. another idea, matter, and spirit. (4) But he has shown that matter does not exist, therefore it cannot be the cause of ideas. (5) Ideas, for their part, are necessarily inert and passive, and therefore cannot cause ideas. (6) Therefore the cause of ideas must be spirit, either finite or infinite. (7) Now, finite spirits cannot cause ideas of sense, for these are passively received, independent of our volition. (8) The cause of ideas of sense is therefore an infinite spirit. (9) And the regularity, harmony, and order of the created world proves that there is only one infinite spirit, *i.e.* God.²

¹ § 26.

² Berkeley has also another proof, based not on causation, but on perception. It is stated briefly in the *Dialogues* as follows: "Sensible things do really exist; and, if they really exist, they are necessarily perceived by an infinite mind; therefore there is an infinite Mind, or God" (i. 425). This argument comes perilously near a *circulus in probando*. We prove the existence of God by inference from the reality of things; and then we use the existence of God to prove the reality and permanence of things.

The inference of the existence of finite spirits other than myself is made on somewhat different lines. It also starts from my own immediate experience, but, whereas the proof of God's existence depends, in one of its links, on the passivity of finite spirits in receiving ideas of sense, the proof of the existence of finite spirits is based on their activity in exciting ideas. Finite spirits are passive in immediate sense-experience, because ideas of sense are perceived in spite of ourselves, being created by God and by him impressed on our minds. But though finite spirits cannot create presentations, they can under appropriate circumstances excite them, and in addition they can cause representations or mental images. In sum, finite spirits are (1) passive in receiving presentations, but (2) active in (a) creating representations, and (b) exciting presentations.

Now, we cannot infer the existence of finite spirits from their passivity in perception. Nor can we infer it from their activity in creating representations, for these images are private and *qua* images incomunicable. The existence of other spirits is inferred from their productive activity in exciting presentations in my mind. I am immediately aware of my own activity in operating and producing effects in the world, and when I see effects similar to those which I could have produced, I infer that they were produced by some other finite spirit.¹ Berkeley's meaning is very simple. I make a box. When I look at it, a certain presentation is in or before my mind. This presentation is ultimately caused by God, but the box which I have made is in some way

¹ *Principles*, § 145.

the occasion of it.¹ Now, if a presentation similar to the one which I have when I look at the box that I have made is excited in my mind at another time and place, I infer that its occasion is a box similar to the one made by me. Now, as I did not make this box myself, I infer that it was made by some finite spirit like myself. Other finite spirits therefore exist.

The general characteristic of spirit, whether finite or infinite, is its activity. It is the activity of spirit that cuts it off with a hatchet from ideas. "All the unthinking objects of the mind agree in that they are entirely passive, . . . whereas a soul or spirit is an active being."² A spirit is an active principle of motion and change. The essence of spirit is activity.

This proof of the existence of spirits has been criticised, e.g. by Hume, on the ground that it is logically on the same level as the materialist proof of matter; and that, as matter has been disproved by Berkeley, he has no right to use the same type of proof to establish the existence of spirits. Spiritual substance, it may be argued, is no more secure from his criticisms than material substance; and if we accept his conclusions with regard to material substance, it must follow that spiritual substance also is impossible. This, in effect, is the criticism of Berkeley's theory of spirits that Hume advanced; but his objections were anticipated and answered by Berkeley himself in an im-

¹ This argument is inconsistent with Berkeley's criticism of the "occasional" theory of matter. *Vide supra*, p. 175.

² *Principles*, § 139.

portant passage in the third edition of the *Dialogues*.¹

He draws attention, in the first place, to his reason for rejecting matter. He has denied matter, he reminds us, not because we have no idea of it, but because the conception of it is inconsistent. On the other hand, though we can have no idea of spirit either, there is nothing "repugnant" in its conception. Matter, in other words, has been rejected because it involves an ultimate contradiction in its nature; but since there is nothing inconsistent in the definition of spirit, no reason exists for its rejection.

Spirit differs from matter, in the second place, with respect to its necessity. There is no reason to believe that matter exists; and therefore, in accordance with the general canon which he has already laid down,² we are justified in assuming that it does not exist. But with spirit the case is different, for the whole of experience depends on the existence of spirit, and as we cannot suppose that the sum-total of our experience is illusory, we are forced to maintain the existence of spirit.

On these grounds, then, he argues that his conception of spirit is not open to the criticisms which he has brought against matter; and therefore we may perfectly consistently reject matter and admit spirit.

In connection with the theory of spirits two important problems arise with regard to (1) the identity and permanence of spirits, and (2) their degrees of reality. These two problems must now be investigated.

¹ i. 449-451.

² Cf. *supra*, p. 178.

(1) From the very first, the problem of personal identity puzzled Berkeley greatly. In the *Commonplace Book* we find the following entry : "Mem. Carefully to omit defining of person, or making much mention of it."¹ This memorandum he bore in mind all his life ; he always assumes that we are immediately aware of personal identity, and if we did not have the *Commonplace Book* we could never guess from his published works that he appreciated the difficulties of the problem. In the *Principles* and *Dialogues* he always writes as though perfectly convinced that personality implies a unity over and above the person's ideas and volitions. In addition to ideas, "there is Something which knows or perceives them ; and exercises divers operations . . . about them."² "*I myself* am not my ideas, but somewhat else, a thinking, active principle that perceives, knows, wills, and operates about ideas."³

Such phrases as these sound very dogmatic ; but the *Commonplace Book* allows us to see that when he wrote these words he had already passed through a scepticism as absolute as that which Hume afterwards reached. It is clear from the *Commonplace Book* that at one time he was inclined to analyse personality away into ideas. "Mind," he says, "is a congeries of perceptions. Take away perceptions, and you take away the mind. Put the perceptions, and you put the mind."⁴ Had he finally acquiesced in this view, his doctrine would have become a pure phenomenism, akin to that of Hume and his followers, according to which the

¹ i. 41.

² *Principles*, § 2.

³ *Dialogues*, i. 450.

⁴ *Commonplace Book*, i. 27-28.

only objects known to exist are passing sensations, of which we can say neither that they are qualities of a permanent thing, nor that they are states of a permanent subject. In such a view as that Berkeley could not rest. He therefore tried to escape by showing that, in inner experience at least, there is something which is lost sight of when we analyse experience into a mere succession of ideas ; and this element, which is the feeling-consciousness of activity, guarantees the existence of personality. "Substance of a spirit is that it acts, causes, wills, operates, or if you please (to avoid the quibble that may be made of the word "it"), to act, cause, will, operate."¹

So far, he is not convinced of the existence of personality as an entity distinct from isolated acts of volition or cognition ; but further meditation on the importance of the activity of spirit forces him to the conclusion that personality does possess an identity over and above the mere succession of ideas and volitions.

Personal identity is connected, he believes, more closely with conative experience than with cognitive. "Wherein consists identity of person ?" he asks ; and replies, "Not in actual consciousness ; for then I'm not the same person I was this day twelvemonth, but while I think of what I then did."² Thinking, then, only partly constitutes identity of personality, inasmuch as it is only as I reflect on the experience I had a year ago that I recognise my identity with what I then was. And this is not the whole truth about personality. Again, he does not believe that

¹ *Commonplace Book*, i. 53.

² *Commonplace Book*, i. 72.

it is a sufficient account of the self-identity of spirits to say that their *esse* is *percipere*. He certainly did believe at one time that the *esse* of the physical order is merely *percipi*. But from the first he saw that the *esse* of spirits is more complex. It was impossible for him to hold that the existence of spirits is *percipere* and nothing but *percipere*, for the attitude of *percipere* is not active in sense-perception, but only in imagination, and, as he consistently maintains, the essential characteristic of spirit is its activity. Hence, as the activity of spirit is what really constitutes its existence, it is improbable that its self-identity will consist in one aspect of its existence which manifests its activity only very imperfectly. The activity of spirit, he holds, may take the two forms of knowing and willing.¹ Now, whereas in knowing the self is not wholly active, in willing it displays complete activity; and Berkeley accordingly maintains that its self-identity consists chiefly in the will.

What, then, is the will? Berkeley's doctrine of volition was to have been developed in Part II. of the *Principles*,² along with the general theory of spirit; and as it is, we have only suggestions towards a doctrine. The first and most important point is that the will is not a separate faculty. On his view,

¹ "A spirit is one simple, undivided, active being—as it perceives ideas it is called the understanding, and as it produces or otherwise operates about them it is called the will." (*Principles*, § 27.)

² Berkeley says of will in the *Commonplace Book*, "Regard must not be had to its existence at least in the first book" [sc. of the *Principles*] (i. 49). (The form in which this entry is printed in the Oxford edition is erroneous. See Lorenz in *Archiv. f. Gesch. d. Phil.* xviii. 555.)

faculties are vicious abstractions, and all he means by the will is spirit as willing. In the attitude of willing spirit is active and causative, exercising a real productivity in the world. We are immediately aware of our ability to cause or construct mental images, and to produce bodily movements. Further, in willing we are self-determining: "Folly," he says, "to inquire what determines the will."¹ It is folly because, since will contains within itself the principle of action and movement, it is obviously self-determining. And as the will is merely one aspect of the spirit, the activity of the will is present in all the experience of a finite spirit. Presentational experience as such is not, it is true, active; but, inasmuch as it is the experience of a spirit, it is accompanied by or pervaded with volitional activity. "While I exist or have any idea, I am eternally, constantly willing; my acquiescing in the present state is willing."² For him, willing is thus simply the conative or active aspect of experience; and, as activity is the most fundamental characteristic of spirit, the will is the most fundamental aspect of the unity of the mind.

It is willing, then, rather than knowing that constitutes personal identity. Berkeley answers in the affirmative the question which he asks himself, "Whether identity of person consists not in the will?"³ The ultimate unity of personality resides in the will.

In the *Principles* this position (to which he has attained by passing through a scepticism as absolute

¹ *Commonplace Book*, i. 34.

² *Commonplace Book*, i. 49.

³ *Commonplace Book*, i. 72.

as Hume's) is everywhere assumed without question. Personality is a unity, which, as cognitive, is called Understanding, and, as conative, Will. But will and understanding are simply names for the operations of the self in different aspects of its life. A self is a single unity, which is responsible for its operations in all their diversity.¹ He emphasises the unity of the self, as opposed to the variety of its ideas ; and its permanence, as contrasted with the transitoriness of its ideas. The identity of the self is implied in the regular epithets "simple" and "indivisible" ; and the retention of the category of substance in connection with spirits has at least the merit of laying stress on their permanence.

The existence and permanence of other finite spirits is, on Berkeley's view, an inference from my own existence and permanence. Their existence is, as inferential, less certain than my own ; and much less certain than God's. But he does not waver in his belief that other selves have a permanent embodied existence like his own. I am one and the same self, and I have a body which I use in my operations on the physical order. In one aspect my own body is a cluster of sensations for me, and a combination of presentations for others ; but it is more than this, for it gives rise to the unique feeling-experience of purposive activity. Similarly, in one aspect, the bodies of my fellow-men are complexes of sensations to them and conglomerates of presentations for me ; but they are not *merely* this. His practical interest in life prevented him from saying that other human beings are merely clusters of perceptions

¹ *Principles*, § 27.

suggested to me in a fixed order. Such a view would render impossible all social and ethical relations. He infers that as my self appears to others simply as a presentational complex, so other presentational complexes or selves, which to me appear simply as presentational complexes, have the same immediate feeling of personal identity as I have. But this is an *inference* from my own experience.

This view that the existence of our fellow-men as identical and permanent selves is known only by analogy from our conviction of our own existence is saved from some of the criticisms that have been brought against more modern restatements of it, e.g. by Avenarius, by Berkeley's insistence that the inference is made on the basis of the evidence of the *activity* of selves. I am conscious of my own activity, and I can see the products of that activity. From my observation of similar products, which I know I did not make myself, I infer the agency of active beings similar to myself. This argument is not open to the criticisms that may be brought against the cruder type of analogical proof.¹ But it seems fairly clear that the analogical argument in general, and therefore Berkeley's version of it, rests on an unjustifiable assumption. It is assumed, on the analogical argument, that we attain a full consciousness of our own selfhood in isolation from, and independence of, other human beings. But this assumption is psychologically false. Our awareness of our own selves and of other selves develops concurrently. From our earliest days we exist in a society ; and only as our own inchoate purposes

¹ Cf. A. E. Taylor, *Elements of Metaphysics*, p. 204 ff.

partly coincide with, and partly conflict with, other purposes, do we become fully aware that our purposes are ours. Our awareness of our own and of others' identity shows a wonderful parallel evolution.¹

(2) So far, in dealing with the permanence and self-identity of spirits, we have not considered them, in relation to one another, with respect to the grades of reality which they occupy. A conception of grades of reality is implied, as we have already seen, in Berkeley's view of the world ; and we must now examine how far his theory of spirits harmonises with it.

For Berkeley, the world consists, as we have seen, of spirits and ideas. But ideas are entirely dependent, if they are presentations, on God ; and if they are representations, on finite spirits. Thus spirits alone have an independent existence, and accordingly, seeing that the reality of things is relative to that of spirits, a doctrine of grades of reality will have reference mainly to spirits. Is it possible to classify spirits according to their degrees of reality, or are all spirits equally and completely real ?

In Berkeley's all-spiritual universe spirits differ in the degree of their reality, the gradation being conceived in terms of activity. God is pure activity, and is thus completely and ultimately real. Finite spirits are active, inasmuch as they will, operate in the world, and cause representations ; but, since they can create neither selves nor presentations, their activity is inferior to God's ; and, as percipient of presentations created by God, their nature includes the element of passivity, which is entirely

¹ Cf. Broder Christiansen, *Vom Selbstbewusstsein*, p. 29 ff.

absent from God. Thus, as (a) incompletely active, and (b) partially passive, finite persons are less real than God ; and they may be considered to occupy a position intermediate between God and things. Least real of all, possessing, indeed, only relative and dependent reality, come things or ideas. These are entirely inactive ; their nature is wholly passive and inert. Thus, any reality that may be ascribed to things is merely a courtesy-title : they are real only by the grace of God.

Berkeley's metaphysic, then, comes in the end to be a hierarchic pampsychism. His doctrine is not really solipsistic, for he explicitly holds (a) that the world contains, in addition to me and my ideas, other finite spirits with their ideas, and (b) that I am not the source of my presentations, but am dependent for them on God, who causes them to occur in a fixed and regular order. But, since what really exists is nothing but a hierarchy of spirits, the doctrine is necessarily a pampsychism.

V. CAUSATION

As the reality of the physical world is wholly dependent on God, God must obviously play an indispensable rôle in Berkeley's theory of causation. Berkeley's view of existence involves, as we have seen, a conception of three degrees of reality. In precisely the same way his theory of causation implies three types of causes, differing in the extent and power of their operation. As God is completely real, spirits incompletely real, and things real only in a derivative sense, so God is the only complete

and real cause, spirits being incompletely causal, and things exercising a merely derivative causality, which, indeed, can be called causality only by courtesy. This conception of degrees of causality must now be examined.

In accordance with the whole trend and spirit of Berkeley's philosophy, God is regarded as the supreme and fundamental cause. It is God who creates all spirits and all things. "He immediately produces every effect by a fiat or act of his will." But God does not simply create the world of things and then leave it to go by itself like a clock that has been wound up to go for a certain period. Yet Berkeley allows that, if we really understand what we mean, we may speak of "the clockwork of Nature."¹ What we mean by this is that every event that occurs in the physical order is the direct result of God's volition. It is God's good will that the successions of events should follow one another in a fixed and harmonious order. But the fact remains that every fiat of God's will is entirely arbitrary; and that, just as we may call up any image at will, so God can cause any event at will. At any moment, God may depart from the order which he normally maintains. That he does not, in general, perform miracles, is due to his desire to enable us to regulate our actions for the benefit of life; for unless events occurred in a fixed and uniform sequence, "we should be eternally at a loss: we could not know how to act anything that might procure us the least pleasure, or remove the least pain of sense."² God, then, does maintain the

¹ *Principles*, § 60.

² *Ibid.* § 31.

regular sequence of events. But that order is not necessary: it is entirely dependent on the grace of God, which is arbitrary, though not capricious. God is at every moment operative in the world, as an omnipresent, infinitely active spirit. It is as essential to maintain the conservation of nature as its creation; and Berkeley concludes "that all things necessarily depend on Him as their Conservator as well as Creator, and that all nature would shrink to nothing, if not upheld and preserved in being by the same force that first created it."¹

In addition to God, Berkeley admits two other sorts of cause. But just as God is the only ultimate reality, so God is the only ultimate cause. As the reality of finite spirits is derivative and imperfect, so is their causality. Thus Berkeley recognises "spirits of different orders, which may be termed active causes, as acting indeed though by limited and derivative powers."² The causality of spirits manifests itself in two main forms. They are capable of creating images, and they are able, at least to a limited extent, to produce motions in their own bodies, in other persons' bodies, and in things. But compared with God's causality, the powers of finite spirits are doubly limited, inasmuch as their ability to produce motions in the physical order is imperfect, and they are impotent to create either selves or things.³

When we consider the causality of things, we find that, precisely as things, being passive and inert, are denied the name reality in a full and proper sense,

¹ *Letter to Johnson*, ii. 16, 17.

² *Letter to Johnson*, ii. 16.

³ *Three Dialogues*, i. 431.

so they cannot properly be causes. It is, indeed, a contradiction that a thing totally devoid of activity should be a cause. Berkeley therefore denies that, strictly, there is such a thing as natural causality. He finds no difficulty in disproving the contemporary Corporealistic hypothesis, on the ground that as corpuscles are, *qua* ideas, passive and inert, no possible combination of them, in extension, figure, or motion, could possibly be a cause.¹ Nature in Berkeley's sense of "the visible series of effects or sensations imprinted on our minds, according to certain fixed and general laws," cannot produce anything at all.² Nature is passive, and therefore cannot be a cause. The belief that there are real natural causes arises from an erroneous analysis of our own immediate experience. We are immediately aware of a uniform succession of presentations in our experience; we know, further, that we did not cause them; and we hastily infer that they must cause one another. But Berkeley points out, as Hume did later, that all we actually perceive is the uniform succession of our presentations. The inferences that the connection between them is necessary, and that one can be the cause of another, are both alike false. The only ultimate cause is God, and though his causality issues in "a consistent uniform working," it implies no necessary connection between things. "There is nothing necessary or essential in the case."³

The relation between cause and effect is thus a purely arbitrary one. Cause and effect are connected by no necessary tie; they bear to one another

¹ *Principles*, § 25.

² *Ibid.* § 150.

³ *Ibid.* § 106.

merely the relation of sign and thing signified. By experience we learn that such and such ideas are followed or attended by such and such other ideas; certain sequences and concurrences occur regularly and uniformly. The preceding ideas are not, Berkeley avers, the *causes* of the subsequent ideas: they are merely the *signs* that warn us that they will be followed by certain other ideas. Thus Berkeley's theory of causality becomes a doctrine of signs.¹

The doctrine of signs occupies a highly significant place in Berkeley's philosophy. "I am inclined," he says, "to think the doctrine of Signs a point of great importance, and general extent, which, if duly considered, would cast no small light upon Things, and afford a just and genuine solution of many difficulties."² The part which signs play in discharging the functions of universality in Berkeley's philosophy has already been explained, and we have indicated the logical weaknesses of the theory.³ We have now to estimate the importance of the doctrine of signs in Berkeley's philosophy of causation.

Although the importance of the doctrine of signs has been very generally recognised, it has never been made clear, so far as I am aware, that the use of signs in mathematics did much to suggest to Berkeley, or at least to confirm his belief in, the importance of a metaphysical theory of signs. This point is important from the historical standpoint—so im-

¹ In Locke's classification of the sciences (*Essay*, iv. xxi.) the third division of knowledge is termed "Σημεωτική, or the doctrine of signs." But by this Locke means little more than logic; and on this account Berkeley is indebted to him only for the name.

² *Alciphron*, ii. 343.

B.P.

³ *Vide supra*, p. 133.

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portant as to justify a digression of some length, in order to explain how the value of signs in mathematics impressed Berkeley.

It must be remembered that Berkeley's great object, as he tells us again and again, is to *simplify* philosophy, and abridge the labour of study. Now, in mathematics it is the great function of signs to abridge the labour of study and to simplify methods and explanations. This function of signs is apt to be overlooked by us, for we take the use of signs in mathematics simply as a matter of course. We could not conceive mathematics without the use of signs. But in Berkeley's day the extended employment of signs in mathematical operations was still almost a novelty ; and he takes pains to point out the value of those branches of mathematics, which are specially concerned with signs, in the simplification of the sciences. "Modern algebra," he says, "[is] in fact a more short, apposite, and artificial sort of language."¹ Now, philosophy has always suffered, Berkeley believes, from the ambiguity and unsuitability of the language with which it has been forced to work. What advances, then, might we not hope for, if we could employ in philosophical investigation a perfectly determinate and suitable terminology ? Such a terminology, Berkeley hoped, might be supplied by signs akin to those employed by algebra. Algebra is *par excellence* the science of signs, and Berkeley believes that a little attention to algebra and the way in which it uses its signs "may possibly help us to judge of the progress of the mind in other sciences ; which, though differing

¹ *Alciphron*, ii. 344.

in nature, design, and object, may yet agree in the general methods of proof and enquiry."¹

It will help us to appreciate Berkeley's application of the doctrine of signs to the special problem of causation, if we explain (1) how, shortly before Berkeley's day, signs had come to be used in mathematics and especially in algebra ; and (2) what exactly Berkeley understood by the application of algebraic methods in other sciences.

(1) First, then, of the development of the use of signs in mathematics in the decades immediately preceding the time when these problems began to occupy Berkeley's attention. The first signs to be used were naturally those of addition and subtraction (+ and -) ; yet even such elementary and indispensable signs were not generally accepted symbols till about 1630. And it was much later before uniformity was reached in the use of the other chief signs.

From 1631 onwards English mathematicians used the sign \times to denote multiplication, but many French mathematicians, following the usage of Descartes, indicated the operation by a dot. And it was denoted by Leibniz in 1686 by the sign \smile .

A similar lack of agreement existed as to the symbols with which to represent division. It was usually indicated by the method, copied from the Arabs, of writing down the quantities to be operated upon in the form of a fraction by means of a line drawn between them, in any of the forms $a - b$, a/b , or $\frac{a}{b}$. English mathematicians, however, frequently

¹ *Ibid.* ii. 342.

indicated it by a dot. In 1686 Leibniz used the sign — .

The symbol = for equality was not commonly used till the time of Newton, say about 1680. Previously the word was written out fully, or the signs α or ∞ were used. The sign :: to denote the equality of two ratios was brought into common use in 1686 by Wallis.

The relations *is greater than* and *is less than* were, at the beginning of the eighteenth century, indicated either by our present signs $>$ and $<$, or by \supset and \subset . The negative symbols \neq for *is not equal to*, $\not>$ for *is not greater than*, and $\not<$ for *is not less than* had not been introduced in Berkeley's time.

In Berkeley's day the use of indices to denote the power to which a magnitude is to be raised had only comparatively recently become general. As early as 1637 Descartes used indices, but only positive integral ones, e.g. a^2 , a^3 . In 1659 Wallis used and explained fractional and negative indices, e.g. x^{-1} , $x^{\frac{1}{2}}$; and Newton was the first to use an index infinitely large, e.g. a^n .

The invention of the calculus necessitated the introduction of certain symbols. In Newton's notation \dot{x} means a first fluxion, \ddot{x} a second fluxion, and so on; and the corresponding differentials were represented by Leibniz by dx , ddx , and so on.¹

Now practically all these symbols, it must be repeated, were comparatively new in Berkeley's

¹ On the development of the use of signs in mathematics see further W. W. R. Ball, *A Short History of Mathematics*, pp. 212 ff.; M. Cantor, *Geschichte der Mathematik*; and F. Cajori, *The Works of William Oughtred*, in the *Monist*, July, 1915, pp. 441 ff., to all of which the above account is indebted.

student days; and their use had not yet become common. Still, it was already clear how wonderfully they had contributed to the success of mathematics. They had helped it to advance by simplifying its methods, for before their introduction all mathematical operations had to be written out fully in words, and mathematical demonstrations, unless they could be represented geometrically, were cumbrous and tedious.

Berkeley himself was greatly interested in the use of signs in mathematics. In the *Miscellanea Mathematica* (1707), he indulges in a perfect orgy of symbols. And he suggests, in a short paper *De Radicibus Surdis* (1707), as a simplification of the usual method of representing surd quantities, the introduction of a new symbolic notation of his own.¹ Roots, he points out, might conveniently be represented by the use of Greek letters; β , for instance, would express \sqrt{b} , δ would stand for \sqrt{d} , and so on. Similarly, \sqrt{bc} would be written $\beta\kappa$, and $\sqrt{\frac{b}{c}dm}\frac{\beta\delta\mu}{\epsilon}$. But Berkeley sees that, if this notation were adopted, it would not enable us to distinguish square roots from cube roots and those of still higher powers; and he therefore makes the alternative suggestion that roots should be expressed by the same method of dots as was then used for fluxions, e.g. \dot{a} would stand for \sqrt{a} , \ddot{a} for $\sqrt[3]{a}$, \dddot{a} for $\sqrt[4]{a}$, and so on.

Now, worthless as all this is in itself, it is yet of importance on account of the light it throws on

¹ iv. 43-47.

Berkeley's interest in symbols as such. He was interested in them because they were still so new that alterations such as he advocated might even yet be suggested with some hope that they might be accepted. But another consideration impressed Berkeley in connection with signs. Though fifty or even twenty-five years before his student days they had been used by mathematicians with little uniformity, they had already by the time he began to write become fairly standardised, so that the same symbols everywhere and always meant the same thing. This meaning was, indeed, arbitrary and artificial; but for Berkeley the important thing was that it was a definite and determinate meaning. Thus by the use of similar signs in philosophy he hoped to be able to introduce exactness and accuracy, and at the same time secure results which could be demonstrated so that all who agreed in the meaning of the signs would be forced to give assent to the conclusions. And finally, Berkeley hoped that by such an introduction of signs in philosophy it would be possible to simplify it and rescue it at once from the meaningless subtleties of the Schoolmen, and the occult complexities of the Cartesians. Hence he believes that the hope of philosophy lies in the application to its problems of algebra, the science of signs.

(2) What exactly does Berkeley mean by the application of algebra to the problems of philosophy? Berkeley's interest in algebra is proved not only by the numerous references to it in his works, but also by the juvenile publication *De Ludo Algebraico* (1707). This tract gives a description, with a figure, of an algebraic game invented by him, and advocated

on the characteristic grounds that it is both as pleasant a recreation as chess and a useful exercise in algebra. After explaining the game he concludes by making the most extraordinary claims for algebra. It may usefully be applied, he declares, "to the whole extent of mathematics, and every art and science, military, civil, and philosophical." "Through all of these," he continues, "is diffused the wondrous power of algebra. By all it is regarded as a great and wonderful art, the topmost pinnacle of human knowledge, and the kernel and key of all mathematical science."¹

After thus giving his own testimony to the value of the application of algebra in the sciences, Berkeley proceeds to appeal for confirmation to the evidence of Descartes, Malebranche and Locke.² Unfortunately the passages in these authors to which Berkeley refers shed very little light on the application of algebra. Locke, whose *Conduct of the Understanding* Berkeley refers to, speaks very favourably of algebra, but he says nothing about the possibility of applying its methods directly to other sciences.³ And Malebranche, to whom Berkeley also refers, though he expresses himself with more vigour and enthusiasm than Locke, does so with equal vagueness. He merely insists, as Berkeley does, on the simplicity and ease with which, by means of algebra, we are able to abridge the labour of study; and he declares that algebra (along with arithmetic) forms the foundation of all the sciences, and supplies the means by which they may be acquired.⁴ The point

¹ iv. 60.

² *Miscellanea Mathematica*, iv. 62.

³ *Op. cit.* § 7.

⁴ *Recherche de la Vérité*, vi. i. 5.

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¹ iv. 60.

² *Miscellanea Mathematica*, iv. 62.

³ *Op. cit.* § 7.

⁴ *Recherche de la Vérité*, vi. i. 5.

on which both Malebranche and Locke insist is the value of algebra in *simplifying* the sciences to which it is applied.

To them and their readers it was perfectly clear what was meant when it was said that algebra simplifies the work of the sciences ; but to us, to whom algebra is no novelty, this aspect of it is not so obvious. And it may, perhaps, help us to realise what Berkeley hoped for from the application of algebra in philosophy, if we have before us an example of the way in which algebra had rendered possible this work of simplification.

Algebra had been employed by Descartes to simplify geometry. Descartes invented analytical geometry in 1637 and substituted simple algebraic methods, which could be applied universally, for a cumbrous geometry requiring new constructions for each particular problem it attacked. Analytical geometry gives us a method of representing curves and curved surfaces by means of simple algebraic equations. Descartes saw that a point in a plane could be determined if its two co-ordinates were given, *i.e.* if its distances (x and y) from two straight lines drawn at right angles to one another in the same plane were known. Such an equation as $f(x, y)=0$ represents a plane curve described according to a certain law. The equation is indeterminate and is satisfied by every point in the curve ; but its merit is precisely that it is general and contains in itself every property of the curve. Thus, instead of having to draw a special figure for each case, as we must do in ordinary geometry, it is only necessary to know the general equation to the curve, and any

particular property may then immediately be deduced by an application of ordinary algebra. In this way the application of algebraic methods to geometry immensely simplifies what would otherwise be exceedingly complicated geometrical operations.

The possibility of applying algebra outside mathematics had occurred to many thinkers in Berkeley's day, and algebraic methods had been applied, often very foolishly and fantastically, to all sorts of problems. Berkeley himself notes its application in medicine and natural philosophy ; and he refers, with evident appreciation, to the use that had been made of it in demonstrating the credibility of human testimony. As an example of this he gives a reference to an article in the *Philosophical Transactions* of the Royal Society ; and it seems worth while, as an instance of the kind of "application" he thought feasible and valuable, to indicate the scope and argument of the article in question.

In the article,¹ which is anonymous, the writer considers the credibility of evidence, *e.g.* the report that £1200 has been given to him by somebody. He assumes that the credibility of the average report is $\frac{5}{6}$ absolute certainty, and thus if the report be at second-hand its credibility will be only $\frac{25}{36}$ (*i.e.* $\frac{5}{6}$ of $\frac{5}{6}$), and so on. This may be expressed algebraically as follows, if we put a for the share of certainty given by a single reporter, and c for what is lacking to make the certainty complete. The degree of

¹ "On the Credibility of Human Testimony," *Philosophical Transactions*, 1699, vol. xxi. no. 257, p. 359. The author may have been John Craig (*v. infra*).

certainty at first-hand is $\frac{a}{a+c}$, at second-hand

$\frac{a^2}{(a+c)^2}$, at third-hand $\frac{a^3}{(a+c)^3}$, and so on. Take

another case, rather more elaborate. Suppose the narrative reported contains six particular articles or statements. If the degree of certainty of the whole be $\frac{5}{6}$, the degree of certainty for each article will be $\frac{35}{36}$. For there is 5 to 1 against any error at all in the report, and there is another 5 to 1 against the error falling in any one particular article. The recipient of the news has $\frac{5}{6}$ certainty for the whole, and $(\frac{5}{6} \times \frac{1}{6})$ certainty additional for each particular article taken separately, i.e. $\frac{5}{6} + \frac{5}{36}$ or $\frac{35}{36}$ certainty for each particular article taken separately. This result also may be expressed algebraically. For

suppose as before that $\frac{a}{a+c}$ is the proportion of certainty for the whole, and that $\frac{m}{m+n}$ is the chance of the rest of the particular articles (m) against any one or more of them (n), then the certainty in the case of each particular article will be unity diminished

by $\frac{nc}{(m+n)(a+c)}$. Other problems considered in the articles are the credibility of oral tradition over a period of years, and the accuracy of written tradition involving several copies of the original document. By a strange coincidence a book was published in the same year as this article appeared (1699) bearing a title copied from Newton (*Theologiae Christianae Principia Mathematica*), and dealing with the same problems as the article. The author,

John Craig, calculates by mathematical methods that the evidences of Christianity, gradually deteriorating, will be reduced to nil in 3150 A.D., and that a new revelation will then become necessary.

Berkeley avoided the absurdities and extravagances of such "applications" of algebra, but the spirit which actuates him is the same. What he does in developing his theory of signs is to apply what he regards as the principles of algebra to the study of nature; and his Natural Philosophy may well be called an Algebra of Nature.¹

Just as algebraic signs suggest to us, or enable us to infer, the things they signify (e.g. from the collection of signs $x^2 + y^2 = c^2$ we infer, according to the Cartesian system, a circle with its centre at the origin), so the signs which we see in nature suggest to us, or enable us to infer, the things they signify. Thus, to use Berkeley's illustrations, a fire which I see suggests to me, or enables me to infer, that if I approach too near to it I shall suffer pain.² Similarly, the noise that I hear suggests to me, or enables me to infer, that some sort of collision or concussion has taken place.³

The relation between the sign and the thing signified is not necessary. The sign does not immediately and inevitably suggest the thing it signifies; the relation between them must be learnt. To the savage the group of signs $x^2 + y^2 = c^2$ does

¹ Berkeley also applies algebra to ethics. *Vide infra*, Chap. VI.

² *Principles*, § 65.

³ Between *suggestion* and *inference* there is an important epistemological distinction. See *Theory of Vision or Visual Language Vindicated*, § 42.

not immediately suggest a circle; the expression suggests a circle only to the man who has learnt by experience the relation between the sign and what it signifies. So, the fire does not *necessarily* suggest pain; it suggests pain only to the "burnt child," only to the person who has *learnt* the relation between the sign and what it signifies.

But though the relation is not necessary, it is uniform. It is uniform—to use a modern term which well expresses Berkeley's meaning—within a certain universe of discourse. Within the universe of discourse of Cartesian geometry $x^2 + y^2 = c^2$ uniformly enables us to infer a circle; and within the universe of discourse of the Earth fire uniformly enables us to infer pain if we approach too closely.

But Berkeley insists that the relation is an arbitrary one. The choice of the particular group of signs $x^2 + y^2 = c^2$ to represent a circle is perfectly arbitrary. Yet it always enables us to infer a circle, because there is universal agreement among mathematicians as to the meaning of these signs. Similarly, the relation between pain and fire is arbitrary, but the latter always allows us to infer the former, because it has been so decreed by God. It is due to the arbitrary, though not capricious, will of God, that certain natural signs always suggest certain natural things signified. The connection is purely arbitrary.

And this, Berkeley argues, is all that we mean by causality. Causality is not the relation of cause and effect, it is the relation of sign and thing signified. The fire that I see is not the *cause* of the pain I feel on approaching it too closely, it is the *mark* or *sign*

that forewarns me of it.¹ Similarly, the noise that I hear is not the *effect* of the collision, but the *sign* that enables me to infer that a collision has taken place. The sign may thus be either what is commonly called the cause, or what is commonly called the effect. If it is the "cause," it suggests, as the thing signified, the "effect"; and if it is the "effect," it suggests, as the thing signified, the "cause."

Berkeley thus implies the strict correlativity of "cause" and "effect"; and with such a doctrine as the plurality of causes he would have no sympathy. Every sign in nature is correlated by God with some one thing which it signifies; there is a pre-established harmony between them, and as the sign strictly suggests only the one thing signified, so the thing signified suggests only the one sign. A thing signified cannot be signified by a plurality of signs; it is suggested only by its own proper sign.

Nature is systematically organised by God so that signs and things signified preserve this one-one relation. As the Language of Nature—to use Berkeley's own term—is a perfect language (for it is the language of God), each word in it stands for some one particular thing, and each particular thing in the universe has its appropriate and peculiar name. Thus, in the mind of God, nature is absolutely systematic, and signs and things signified are perfectly adjusted.

This divine language constitutes, for Berkeley, the system of the laws of nature. The language of nature reveals its "consistent uniform working" and shows that its laws are "connections established

¹ *Principles*, § 65.

by the Author of Nature in the ordinary course of things.”¹ These laws of nature, representing a pre-established connection in the mind of God, are absolutely settled and fixed, and in accordance with them everything in nature takes place with perfect uniformity.

Now, men often doubt the uniformity of nature and the universality of its laws. The reason for this is that the laws of nature are not self-evident. They need to be learnt. The universe may well seem a chaos before we have learnt its meaning. This meaning is not supernaturally revealed to us at birth. God, it is true, excites in us from time to time certain ideas which are connected by set rules in his mind; but he does not explain their connection to us all at once. We must learn by experience which ideas are connected with which. We have to acquire God’s notation, as we have to learn that of Descartes or Newton. We understand the laws of nature, “the set rules or established methods wherein the Mind we depend on excites in us the ideas of sense,”² only when we are able to interpret God’s symbolism, just as we understand the theorems established in the *Principia* only when we are acquainted with the notation which it employs. Hence it is the great task of science to try to understand the divine symbolism. “It is the searching after and endeavouring to understand this Language (if I may so call it) of the Author of Nature that ought to be the employment of the natural philosopher.”³

¹ *The Theory of Vision or Visual Language Vindicated*, § 40.

² *Principles*, § 30.

³ *Ibid.* § 66.

In the process of seeking to understand this divine language of the laws of nature we may often attain some knowledge of the sign without fully or exactly comprehending what it signifies. The sign may suggest *something* to us, and we may be able to make use of it, though we may be quite unable to formulate precisely what it does suggest. Here again the analogy of mathematics makes Berkeley’s meaning clear. Such signs or groups of signs as $\sqrt{-1}$ and π mean something and may be used in mathematical operations, though it is impossible to express numerically *exactly* what they suggest. So, even though it be impossible to explain precisely what certain signs in nature suggest to us, we may make use of the symbols, and may, indeed, maintain that, though we cannot formulate them exactly, there *is* something that they suggest.¹

But in general we *are* able by experience to learn the relation between sign and thing signified. God follows certain rules in the organisation of nature, and, as men succeed in discovering these rules, the connection of sign and thing signified becomes ever clearer. God creates certain organisms and constructs certain machines, in much the same way as men combine letters in words and words in sentences. As the relations of words are clarified when they

¹ In this argument Berkeley has a theological motive. He wishes to justify our belief in the mysteries of religion. He maintains that though these mysteries are above reason, they are not contrary to reason. According to his argument, we see certain “effects” in the world which seem to be signs of certain supra-rational “causes”; and, even though we are unable to give a rationale of what we conceive to be signified by these ideas, yet, so long as our assumptions do not contradict reason, we are entitled to make use of them.

appear in sentences, so the relations of things are elucidated when they are seen in a proper context as parts of machines or organs in organisms.¹

The question may be raised, why, if God is the ultimate and omnipotent cause, he requires organisms of complex structure to produce effects which he could equally well have created by a single fiat of his will. To this question Berkeley's answer is that all the elaborate organisation and mechanism is "for our information." It is not necessary for the production of the results themselves, but it is essential in order that they should occur *according to the laws of nature*.² Things must be produced by God by the same methods and in accordance with the same processes, in order that we, perceiving the appropriate signs, may have due warning that the things signified will follow.

Thus the two functions of the laws of nature or the methods of God's operations are (*a*) to guarantee the uniformity of experience, and (*b*) to enable us to use foresight for the benefit of life. Without these two conditions of experience knowledge and action would be alike impossible. But as it is, we are able to acquire scientific knowledge of nature, to pass judgments of value on actions, and to predict the future with sufficient accuracy to make practical activity fruitful.³

In all this Berkeley is oscillating uncomfortably between a theocentric and an anthropocentric view of the universe. From the point of view of knowledge the balance dips towards the theocentric

¹ *Principles*, § 65.

² *Ibid.* § 62.

³ *Ibid.* § 62.

theory, but in regard to practice Berkeley is decidedly anthropocentric.

On the one hand, the reality of the universe is due entirely to God. From the human point of view the laws of nature according to which the world is governed seem to have no reality. They are simply convenient names which indicate the regular order with which, in our experience, sign and thing signified constantly occur. A law of nature is not even a category which we apply.¹ It is nothing but an arbitrary relation devised by God for our information. But the apparent unreality of the laws of nature vanishes when we survey them *sub specie aeternitatis*. For they exist in the mind of God, and thus they have perfect reality; they are not only real, but the forms in which all reality exists. From the point of view of science the world is necessarily theocentric.

On the other hand, from the practical standpoint, the centre of the universe is man. Though God is the ultimate cause, and acts always in accordance with his will, all his activity is directed to secure the greatest value for life to finite persons. He goes to the trouble of putting countless cogs on machines and innumerable organs in organisms (all from his point of view useless), solely "for the benefit of life" of finite spirits. The whole universe is benevolently ordered by God for man's advantage, and thus, varying a well-known title, we may say *servus servorum Deus*.

¹ *Principles*, § 66.

VI. MOTION, SPACE AND TIME

Berkeley's general attitude to the problems of motion, space and time might be inferred from his theory of causation. As God is the Supreme Cause, so God is the Prime Mover. As God enables finite causes to operate in virtue of their relation to him, so God exercises a normative function with respect to the private spaces and times of which alone our own immediate experience assures us. Causation would be impossible, apart from God. Similarly, space, time and motion would be impossible, apart from God. Berkeley holds that physics does not require the postulate of mechanical causation or infinitely extended matter. But it does require the existence of God.

The theory of motion, space and time is most fully set forth in the Latin treatise *De Motu*, which Berkeley wrote in 1720 and published in the following year. In 1720 the Academy of Sciences at Paris offered a prize for an essay on the nature, origin and communication of motion. Berkeley's tract was written with a view to this, but there is no evidence that it was ever submitted to the Paris Academy. In any case, the prize was gained by Crousaz (1663-1749), a well-known logician, with his *Discours sur la Nature, le Principe, et la Communication du Mouvement*. If Berkeley was a candidate, his failure is not surprising, for the essay is superficial and ill-arranged, supercilious in its criticism, and vague in its positive conclusions. But its significance becomes greater when we consider it in connection with what Berkeley elsewhere says about motion,

and in relation to his metaphysical theory as a whole.

De Motu forms a half-way house between the sensationalism of Berkeley's earlier period and the spiritual realism which he developed in his latest phase. On the whole, its assumptions are those of the early period, but these assumptions are not obtruded. Berkeley's disinclination to emphasise his own metaphysical theory was no doubt largely due to the fact that he was writing *De Motu* for the approval of a French committee, most of whom would be unacquainted with his work in the *Principles*, and therefore he did not care to bring into the foreground a theory of his own which might prejudice them against him. But it is also possible to detect in *De Motu* traces of the process of development which finally culminated in *Siris*.¹ The author of *De Motu* is a more mature Berkeley than the writer of the *Principles*.

In proceeding now to sketch the outlines of Berkeley's natural philosophy, we shall deal first with motion, and then pass on to consider his theories of space and time.

The nature of motion occupied Berkeley's attention from the very beginning of his speculation. In the first page or two of the *Commonplace Book* he is troubled about the relation of tangible and visible motion,² and the difficulty of reconciling Newton's two kinds of motion (*i.e.* absolute and relative), with the New Principle.³ In the *New Theory of Vision*, these problems are briefly considered,⁴ in the *Principles* his own views are very clearly though

¹ *Vide infra*, Sect. VII. ² i. 59. ³ i. 60. ⁴ § 137.

summarily stated,¹ and the arguments which he adduces are reinforced in the *Three Dialogues*.² *De Motu* is, of course, devoted almost entirely to it. This, then, is the corpus of material with which we have to deal.

To take first the origin of motion. On this problem Berkeley at once intimates his disagreement with currently accepted theories.³ He credits Newton with the doctrine that the origin of motion is to be found in gravity, and objects to this theory on the ground that it is no explanation at all. It succeeds only in committing the fallacy of *obscurum per obscurius*. For it does not tell us what gravity is. "Newton proves," says Berkeley, "that gravity is proportional to gravity. I think that's all."⁴ As Newton does not tell us what gravity is, it is rash and indeed futile for him to ascribe the origin of motion to it. He is explaining by means of that which itself needs explanation. This is Berkeley's preliminary criticism of Newton. It is, as a matter of fact, an *ignoratio elenchi*, for Newton does not assign gravity as the ultimate cause of motion. He holds that gravity is of value in the explanation of the world of phenomena, but gravity itself needs to be caused by something else, and what this ultimate cause may be Newton never pretends to say.⁵

Leibniz also, Berkeley holds, is at fault in the account he gives of the origin of motion.⁶ As the

¹ §§ 10, 14, 27, 99, 101-117. ² i. 400-403.

³ *De Motu*, §§ 3 ff.

⁴ *Commonplace Book*, i. 31.

⁵ Rationem vero harum Gravitatis proprietatum ex Phaeno menis nondum potui deducere, et Hypotheses non fingo. (*Principia*, 1713, p. 483.)

⁶ *De Motu*, § 8.

ultimate cause of motion Leibniz assigned an active primitive power, present in all bodies and producing relations of attraction and repulsion between them.¹

Now, Berkeley says, Newton and Leibniz both admit that nothing *real* corresponds to what they call respectively gravity and power. Newton uses gravity simply as a mathematical hypothesis, and Leibniz agrees that the *nitus* and *sollicitatio* of bodies do not really exist *in rerum natura*, and are, in fact, simply convenient abstractions. Berkeley argues that such explanations as these which rest on obscure and occult abstractions explain nothing. The qualities which they assign as causes of motion are neither apprehensible in sense-perception, nor intelligible by reason. Therefore, they are, Berkeley concludes, "just nothing," and those who have posited them are little better than quibblers. "Dixisse aliquid potius quam cogitasse censendi sunt."²

¹ It is noteworthy that *De Motu* is the only one of Berkeley's works in which much attention is paid to Leibniz. That he mentions him there is sufficiently explained by the considerations that (a) the tract was written when Berkeley was returning from a prolonged sojourn on the Continent, where Leibniz's reputation was much greater than it was in England or Ireland, and that (b) the essay was intended to be offered to a society among whom Leibniz's work was peculiarly well known. But Fraser is mistaken in saying that Leibniz is mentioned for the first time in *De Motu*. There are at least two earlier references, one in the *Commonplace Book* (i. 85), and the other in the early essay *Of Infinites* (iii. 411), in both cases the references being to Leibniz's Differential Calculus. Berkeley had every opportunity of making himself acquainted with Leibniz's work, as he had access at Trinity College, Dublin, to the *Acta Eruditorum*, in which many of Leibniz's important papers were published.

² *De Motu*, § 20.

Berkeley lays down, as a general canon of procedure, that in the philosophy of nature an explanation is valid only (a) if it can be verified by actual sense-perception, or (b) if it is rationally demonstrable. Unless it satisfies either one or other of these conditions, it cannot be admitted. And he objects to Newton's and Leibniz's explanations on the ground that they conform to neither of these principles. It is obvious that neither Newton's "gravity" nor Leibniz's "power" is the object of sense-perception. Berkeley also maintains that neither is capable of rational proof. So far as Leibniz is concerned, Berkeley's criticism is justified, because Leibniz's principles of explanation were obscure, occult, and indeed fictitious. On the other hand, the criticism of Newton is not sound. Berkeley asserts that the law of gravitation does not hold universally, and supports this criticism by mentioning instances of motion and rest which do not conform to it. These exceptional cases to which he draws attention are the perpendicular growth of plants, the elasticity of the air, and the absence of attraction in the fixed stars. It can now be shown that these exceptions are only apparent, and that they really conform to the law of gravitation comprehensively conceived. Thus on this count also Berkeley's criticism of Newton falls to the ground. But more interesting than the criticism itself is the frame of mind which it reveals in Berkeley. For Berkeley was perfectly content that the exceptions which he mentioned should remain exceptions. With the scientist's demand for universally true principles he had little sympathy. "Methinks," he says

deliberately in the *Principles*, "methinks it is beneath the dignity of the mind to affect an exactness in reducing each particular phenomenon to general rules, or showing how it follows from them."¹

After this criticism of Newton and Leibniz, Berkeley proceeds to give an explanation of the origin of motion consonant with the general criteria of perceptibility or intelligibility. The world, he reminds us, consists of two sorts of things—bodies and minds.² Bodies, which we know by sense-perception, are extended, solid, impenetrable, and movable. Bodies do not and cannot contain in themselves the origin or efficient cause of motion. All the separate qualities of bodies, and bodies themselves as the complexes of these qualities, are wholly passive in nature. They contain absolutely nothing that is active and that can be regarded as the source of motion.³

But in addition to corporeal entities there are spiritual entities. Thinking beings are not known by sense-perception, but by what in *De Motu* Berkeley terms *conscientia quadam interna*. By a kind of intuition, he means, we realise that we are sentient, peripient and intelligent beings. Further, we know, by the same inner experience, that we are active beings and have the power to cause motion

¹ § 109.

² "Bodies" would have been called "ideas" in the *Principles*. Though in *De Motu* Berkeley never obtrudes his "immaterialism," he says nothing really inconsistent with it. He uses the regular scientific language of the day, and speaks of bodies as solid, extended, and so on; but he still believes that a body is nothing but the compages of its qualities, and that these qualities are all mind-dependent.

³ *De Motu*, §§ 21-24.

in bodies. Our minds can initiate or inhibit the movements of our limbs at pleasure, and thus, since our bodies are moved by our minds, we may call the mind the source of motion.¹

The source of motion, then, is a vital principle. Now, vital principle is possessed only by minds. "Those," Berkeley says, "who ascribe vital principle to bodies devise an obscure fiction."² It is characteristic of beings endowed with vital principle, *i.e.* living creatures, to be able to change their own states and sometimes also the states of others. On the other hand, it is indisputable, Berkeley declares, that no body can of itself initiate any change in its state. It is the nature of body to continue in whatever state it happens to be in, whether that state be rest or motion. Body is naturally inert and passive, entirely at the mercy of external impulsion. That impulsion, which is the proximate cause or rather the occasion of motion, is due either immediately or mediately to some active mind.

But, if we say that mind is the origin of motion, we must remember that *finite* mind is only a subordinate and proximate cause. The ultimate source of motion is what Berkeley calls *primum et universale Principium*, *i.e.* God. In *De Motu* Berkeley gives no account of what he means by this conception. He leaves the nature of God, and his methods of originating and communicating motion, in complete obscurity. All he does is to claim the support of Plato and Aristotle, the Cartesians and Newton for the conception of God as the creator and conservator of motion in the universe.

¹ *De Motu*, § 21.

² *Ibid.* § 33.

It is a little amusing and a little pathetic to notice that Berkeley seems to be perfectly satisfied to leave the matter at that. After all his fulminations against mere words which mean "just nothing," he seems seriously to believe that the four thinkers whom he has mentioned mean the same thing as he does when they all speak of God as the ultimate cause of motion. But, in reality, their conceptions of the being of God and his methods of operation in the world differ absolutely. Plato's God, for instance, is a wise δημούργος with a purely external relation to the world which he makes and remakes. Aristotle, after protesting against Plato's poetic metaphors, ends by giving us a serenely self-contemplative God, who moves the world by being "the object of the world's desire." Newton's God is a very fine mathematical physicist, who has worked out all the delicate adjustments of the universe and keeps everything going absolutely harmoniously. The God of the Cartesians is a Master Clockmaker, or rather a very superior Choirmaster. And Berkeley's God is a Benevolent Bishop, who though absolutely supreme in his diocese allows a certain amount of latitude to his people.

It is clear, of course, that merely to ascribe to God the origin of motion, without any attempt at explanation, is to say nothing at all.¹ Before the ascription

¹ When we blame Berkeley for his failure to bring God and motion into really intimate connection, we should remember that Newton did not succeed in making his theory of their relation at all clear. It is only in a very vague and general way that Newton ascribes to God the ultimate causation of gravity. In the second edition of the *Principia* he adds a general scholium in which he pays to the Deity a somewhat lengthy but apparently perfectly sincere tribute; but apart from the prefatory statement

becomes significant, we must know how God originates motion, how he communicates it to finite spirits, why he communicates it directly to bodies in some cases, and in other cases only through the mediation of spirits or other bodies. None of these questions is squarely faced by Berkeley. In *Siris*, indeed, he makes use of the mystical Fire-philosophy which is prominent in that work, and suggests that God, the Prime Mover, is able to communicate impressions to the finer and subtler parts of the elementary fiery spirit which moves or animates every portion of the world. The motion that is communicated by God to the subtle spirit is passed on by it to the gross and corporeal things in the world. Thus, as fine fiery spirit transfuses minds, and gross fiery spirit bodies, God communicates motion directly to minds and indirectly to bodies. Invisible fiery ether is the medium of communication, and motion is the actually perceptible manifestation of its operation.¹ And that is all that Berkeley has to say of the manner in which God communicates motion to the world.

So far we have been considering Berkeley's account

that the universe proceeds from God's counsel and power, he makes little attempt to connect God with the actual operation of the force of gravity. In the third edition, however, Newton expressly denied the causality of blind necessity or caprice, and definitely ascribed causality to God. "Blind metaphysical necessity," he says, "which is certainly the same everywhere and always, could produce no variety of things. All that diversity of natural things which we find suited to different times and places could arise from nothing but the ideas and will of a Being necessarily existing." (Cf. P. E. B. Jourdain, "Newton's Hypotheses of Ether and Gravitation," *The Monist*, xxv. 247-8.)

¹ § 161 ff.

of the origin of motion. We are now to examine his theory of what he calls the nature of motion.

In *De Motu* he confuses the discussion by referring in vague and general terms to Aristotle and the Schoolmen. In the *Principles*, on the other hand, his account is orientated by Newton's distinction of absolute and relative motion, and his treatment of it is much more clear and adequate.

Berkeley argues against Newton's conception of absolute motion on three grounds.

(1) First of all, he raises a doubt whether, after all, Newton's absolute motion is really absolute. He points out that all motion, as we know it, is relative. Take, for instance, Newton's example of a man pacing the deck of a ship. If he stands still, he is at rest with relation to the sides of the vessel, but he is in motion with relation to the land. If the universe of motion and rest—to make Berkeley's meaning clear by using a convenient term—be regarded as the Earth, then he is in motion; if it be the ship, then he is at rest. Normally, Berkeley holds, we regard the Earth as our universe of motion and rest, and what is at rest in that universe is considered to be absolutely at rest. But, Berkeley urges, that rest is not really absolute; it is still relative to a certain universe of motion. However comprehensive we care to make our universe of motion, motion in it will always be relative, in the last resort, to some even more comprehensive universe. Berkeley is thus inclined to suspect that those who speak of absolute motion really posit nothing more than a very comprehensive universe of motion, which does have limits, e.g. the fixed stars,

and is thus relative to some still more comprehensive universe. If this is really what they do, then it follows, as he justly says, that all motion is ultimately relative.¹

(2) Further, the conception of absolute motion is, Berkeley affirms, unnecessary. Newton believed that it was essential, for the purposes of mathematics and mechanics, to assume absolute motion. If we allow nothing but relative motion, Newton urged, we will be involved in serious difficulties and ambiguities, for one and the same thing may be in relative motion in different directions at the same time. The man pacing the deck of the vessel may be stepping westwards. Relatively to the vessel he is moving in that direction. But if the vessel is sailing eastwards at a greater rate than he is walking, he will really be moving, relatively to the Earth, eastwards. Such ambiguities and difficulties as these are removed, Newton held, by the assumption of absolute motion. But Berkeley maintains that the difficulties arising out of the relativity of motion may be overcome, without postulating absolute motion, if our universe of motion be sufficiently comprehensive. And he holds, though without adducing proofs, that all the laws of motion can be proved on the assumption that the only kind of motion is relative.² This, it is now safe to say, is quite true.

(3) In the last place, Berkeley holds that absolute motion is not only unnecessary but is also impossible. In support of this contention he uses two arguments, one of which seems to be sound, the other being certainly absurd. To take the latter first. "No

¹ *Principles*, §§ 111-115, *De Motu*, § 64. ² *Principles*, § 111.

motion," he says, "can be distinguished or measured except by means of sensible objects."¹ It can now be shown that there is nothing in this argument. We now know that it is possible to measure the motions of certain things, e.g. the undulations of light-waves, which are not themselves objects of sense-perception, and do not require objects of perception as means to their measurement. But Berkeley's second argument seems to be a perfectly valid one. "Determination or direction," he says, "is essential to motion; but that consists in relation; therefore it is an impossibility to conceive absolute motion."² Motion must always take place in some direction or directions, and be in some respect determinate; and as direction is meaningless unless it includes some relation, and determination is always determination with reference to something, it follows that motion must always be relative.³

So far, we may agree, Berkeley is, on the whole, right in his opposition to absolute motion, and in his positive insistence on the relativity of motion. But he goes further, and in this case that means too far. He extends the relativity of motion to mean relativity to sense-perception. The motion of bodies is reduced to the succession of ideas in the mind of the person who perceives the motion of the body. Thus the rate of motion of the body is proportionate to the rapidity with which ideas succeed one another in the mind of the percipient.⁴ Now, it is, of course, obvious that a moving body may be perceived by more than one person, and further that the succession

¹ *De Motu*, § 63.

² *Principles*, § 112.

³ *Ibid.* § 63.

⁴ *Principles*, § 14.

of ideas in *A*'s mind may be twice as quick as in *B*'s. In such a case one of two conclusions must follow. Either the same body at one and the same time is in motion at different rates ; or the body is not in motion at all, motion being nothing but the succession of ideas in *A*'s mind and in *B*'s. The latter conclusion is the one which he adopts. In accordance with his New Principle, motion, one of the so-called primary qualities, does not really differ from the secondary qualities, and is therefore, like them, wholly dependent on the mind by which it is perceived.¹ All motion, then, is relative to the particular percipient mind.

But in the end Berkeley is forced to re-introduce the distinction between relative and absolute motion. Just as, in his theory of knowledge, he found it necessary to postulate the mind of God to give permanence to things, so here he finds it essential in the interests of practical life to assume the existence of a kind of normal motion, determined by the succession of ideas for God's mind. This motion which is perceived by God is absolute motion. It provides the standard of motion, and with respect to it we correlate our private motions. The motion which we actually perceive, *i.e.* the succession of ideas in our minds, is doubly relative. It is relative to the sense-organs of the particular percipient being, and it is relative to the standard of motion which exists in the mind of God. Berkeley never admits that he has reinstated the old distinction between absolute and relative motion. None the less, his premises inevitably drive him to it.

¹ *Three Dialogues*, i. 400-401.

So far of motion. We must now consider the closely similar attitude which Berkeley adopts towards the cognate problems of space and time.

Berkeley's views on space and time are determined by the theories of Newton and Locke. If he is to be consistent with his philosophy as a whole, it is essential for him to maintain, against Newton, that space and time are relative ; and, against Locke, that they consist of particular instants and points. On Berkeley's premises, Locke's pure space and time must be as impossible as Newton's absolute space and time ; space and time, he is forced to hold in conformity with the particularism and relativism which are the keynotes of his whole philosophy, cannot be other than particular and relative.

If we consider first Berkeley's attitude to time, we find that he reduces time to an experienced succession of ideas. As the world consists of minds *plus* ideas, so time consists of a succession of ideas experienced by a mind. Now, Locke admitted that this succession of ideas is an important element^x in our awareness of time : it supplies, he thought, the sensible measure of time.¹ We are unable to measure time, says Locke, which is, in its own nature, pure and absolute, except by means of the sensible canon of time which is supplied by the succession of ideas. But this mere succession is not, Locke insists, in itself time : it is merely the measure of time. In opposition to Locke Berkeley argues that it is misleading to distinguish the measure of time from time itself. Nay more, he urges, time itself does not exist apart from the ideas which we experience.²

¹ *Essay*, ii. xiv.

² ii. 19.

The succession of ideas wholly constitutes time, for such notions as Pure Time and Time-in-general are merely fictions which owe their plausibility to the doctrine of abstract ideas.

Along very similar lines Berkeley criticises Newton's conception of absolute time. Newton had distinguished time as mathematical, true and absolute, from time as relative, apparent and vulgar.¹ The former kind of time, to which Newton gave the alternative name of duration, is a constant process bearing no relation to anything not itself. Relative time, on the other hand, is defined as a sensible and external measure of duration, e.g. "hour" or "month." Now, on Berkeley's view, the only time which we can know, and which we need allow to enter into our calculations, is relative time. It is this alone of which we can have any experience. Not only, Berkeley argues, is Newton's absolute, true and mathematical time unnecessary, whether for the purposes of ordinary life, or for the investigations of the physicist, but, since we can form no idea or notion of such time, it is logically impossible.

From this criticism of Locke and Newton Berkeley concludes that all time consists of particular instants, i.e. particular passing sensations in the minds of percipient beings; hence all time will be relative to these percipients.

¹ Tempus absolutum, verum & mathematicum, in se & natura sua sine relatione ad externum quodvis, aequabiliter fluit, alioque nomine dicitur duratio: Relativum, apparens & vulgare est sensibilis & externa quaevis durationis per motum mensura (seu accurate seu inaequabilis) qua vulgus vice veri temporis utitur; ut hora, dies, mensis, annus (*Principia*, Scholium ad def. viii.).

Two or three notable consequences follow from this view. "Time," says Berkeley, "being nothing, abstracted from the succession of ideas in our minds, it follows that the duration of any finite spirit must be estimated by the number of ideas or actions succeeding each other in that same spirit or mind."¹ From the first Berkeley is aware of the difficulties of this conclusion. If time is measured simply by the succession of ideas, then the age of a fly may really be as long as that of a man.² But not only is the succession of ideas, and therefore time, relative to the particular percipient; it is also relative to the particular state of the same percipient. For instance, the succession of ideas passes more slowly in pain than in pleasure. Are we then to say that one hour of pain is really a longer period than one hour of pleasure? Berkeley admits, in the *Commonplace Book*, that this seems to follow, and in accordance with his extreme relativism, maintains that "the same τὸ νῦν is not common to all intelligences." Thus each man's time is private. If the succession of ideas is more rapid for one man than for another, the times of the two men also vary. In the *Commonplace Book* Berkeley has no way out of the difficulty to suggest, though he must have seen then, as he did later, that the very description of the succession of one man's ideas as swifter than another's implies some standard.

This standard of time, as Berkeley points out in *Siris*, is supplied by God. God causes ideas to occur normally with uniform regularity, and though the sequences of actually experienced ideas may vary

¹ *Principles*, § 98.

² *Commonplace Book*, i. 61.

from person to person they may be co-ordinated with the standard process established by God. But Berkeley insists that this normal succession of ideas, though it exists *for* God's mind, is not *in* it. In other words, God is aware of the ideas which he causes, but the actual ideas which he causes do not pass in succession through his mind.

It is fairly clear that, as in the case of motion, Berkeley has simply reintroduced, though from a different standpoint, the old distinction between relative and absolute time. For finite selves time, as the experienced succession of ideas, is relative; but social relations and practical activity depend on the fact that, over and above these private times, there is a normal order of events, uniformly produced by God. Time as it is for God is absolute, for, though it is of course relative to God's mind, it is absolutely independent of any finite percipient being, and therefore supplies a norm with reference to which the differing particular times of finite individuals may be standardised.

The problem of space is treated by Berkeley on closely similar lines, and, as in the case of time, he has in view throughout the distinction drawn by Newton and Locke between relative and particular space on the one hand, and absolute and universal space on the other. Absolute space for Newton remains always self-identical and immovable, whereas relative space or dimension is the measure of absolute space, and is known by the relation which objects bear to our faculties of sense-perception.¹ Newton's

¹ Spatium absolutum, natura sua sine relatione ad externum quodvis, semper manet similare & immobile: Relativum est

theory is repeated, in essence, in Locke's distinction between pure space and place, Locke's place corresponding roughly with Newton's relative space, and his pure space with Newton's absolute space. Pure space Locke regards as a perfect continuity, having parts, indeed, but parts which are inseparable and immovable. This pure space, which is continuous and infinite, might be called, Locke suggests, not extension but expansion. The term extension would then be applied "only to matter, or the distance of the extremities of particular bodies; and the term expansion to space in general."¹ Extension, then, is relative, expansion is absolute or pure.

In opposition to Locke and Newton Berkeley argues that, as absolute or pure space is an impossibility, the distinctions which they had been at such pains to establish are strictly meaningless. And why does he hold that pure space is simply nothing at all? Because we cannot know it. He examines with some care, in *De Motu*, the characteristics of such knowledge as sense-perception, imagination, and pure intellect; and concludes that absolute space is in nowise knowable, and must accordingly be admitted to be *merum nihil*.²

He points out, in addition, the reason why absolute space has been thought to be possible. Any plausibility it may have rests, he declares, on a faulty psychological analysis. The notion of pure or empty

spatii huius mensura seu dimensio quaelibet mobilis, quae a sensibus nostris per situm suum ad corporum definitur, & a vulgo pro spatio immobili usurpatur: uti dimensio spatii subterranei, aerii vel coelestis definita per situm suum ad terram (*Principia*, Scholium ad def. viii.).

¹ *Essay*, II. xiii. 27.

² *De Motu*, § 53.

space is reached by a process of abstracting all bodies from the relative space with which we are acquainted. But, Berkeley argues, when those who defend the conception of empty space perform this feat of abstraction, they forget one most important thing. They omit to abstract their own bodies. Thus the so-called absolute space which they reach by this process of abstraction is really still relative to their own bodies.¹

Berkeley mentions still another difficulty attaching to the conception of absolute space—a difficulty to which he ascribes very great importance. The conception of absolute space threatens to toss us on the horns of a very awkward dilemma. Absolute space, if it exists, must be conceived to have the same characteristics as God, *i.e.* it is "eternal, uncreated, infinite, indivisible, immutable."² Hence we must say either that God and space are identical, or that there exist two eternal and infinite beings. Both of these conclusions offend Berkeley's religious sense. The former is dangerous to religion, because it makes God extended; and the latter sets up a dead being *pari passu* with God, and thus destroys God's authority and supremacy.³ Berkeley insists that there is one and only one infinite and eternal being, and that that being is a God who is neither space nor spatial.

For all these reasons, then, Berkeley maintains that absolute space is impossible; and he refuses to admit any view of space that is not relative to experience. As he points out in the *New Theory of Vision*, distance and extension are not perceived by sight,

¹ *De Motu*, § 55. ² *Principles*, § 117. ³ *Ibid.* § 117, cf. ii. 19.

but are suggested by touch; and thus extension and distance are relative to each individual's tactful experience. Space for me is the extension that is actually suggested to me by touch, or in other words, space for me consists in the series of my tactful sensations. Similarly, space for you is nothing but the series of your tactful sensations. Thus each individual has his own private space. The paradoxes to which the extreme relativist view would lead are perhaps not so obvious in the case of space as we have seen them to be in connection with time; but a little reflection shows that if each man had his own private space, and if it were impossible to correlate these private spaces, social and practical relations would be impossible.

But Berkeley does not really rest in the extreme relativist view. He assumes, as in the case of time and motion, that God exercises a normative and correlating function. God regulates motion in space, so that, in general, the distances moved by bodies in fixed times under the same conditions are similar. By observation of the regular working of the laws of motion, the private spaces with which finite persons start gradually approximate to the normal space in which God causes motion to take place. Berkeley has thus again rehabilitated the distinction between the absolute and the relative.

As the foregoing pages sufficiently demonstrate, Berkeley's treatment of the problems of motion, time and space is of but little intrinsic value. But it is interesting as an example of the application of his relativism and particularism, and interesting too for

the light it throws on his dissatisfaction with relativism and particularism, and his attempts to reach a more adequate position.

VII. SIRIS: THE CLOSING PHASE.

Siris was published in 1744. Thus more than thirty years had elapsed since the appearance of the *Principles* and the *Three Dialogues*. And though since that time much had been written by Berkeley, he had published little dealing directly with the great problems of the two early works. But during the intervening years his dissatisfaction with the bold conclusions of his youth had been steadily growing. In a letter written in 1729 he apologises for these early works on the ground that he was very young when he wrote them. "I do not therefore pretend that my books can teach truth. All I hope for is that they may be an occasion to inquisitive men to discover truth, by consulting their own minds, and looking into their own thoughts."¹ Yet along with this modest appreciation of his works, so different from his sanguine attitude when he wrote them, he retains the conviction that what he has to say is true, though his way of saying it may be faulty. While continued reflection caused him to modify his views on many points of importance, he still held fast to his architectonic conception of the mind-dependent existence of the universe. He admits that his interpretation of this truth in his earlier work was defective, but the truth itself remains. Thus the task

¹ Letter to Johnson, ii. 18.

of *Siris* is to re-interpret, on a more adequate basis, the main conceptions of the earlier books. Different as Berkeley's earlier and later work is, the later is reconstructive rather than revolutionary.

Siris is fairly well described on the title-page as "A chain of philosophical reflexions and enquiries concerning the virtues of tar-water and divers other subjects connected together and arising one from another." Berkeley's experiments with tar-water, commenced during his stay in America, suggested that it was a universal medicine, suited to cure every disease. It was natural for Berkeley to meditate on the ultimate cause of the provision of this panacea; and reflection on the problem led him from link to link along the chain. The book seems to have no prearranged plan: it follows whithersoever the argument leads. Thus the fact that tar is a vegetable product gives rise to a dissertation on vegetable life, with special reference to pines and firs, from which tar is obtained. The juice secreted by pines possesses mysterious virtues: it contains an acid spirit or vegetable soul, which forms a most noble medicine, "the last product of a tree perfectly maturated by time and sun."¹ After this an investigation of acids in general leads him through much curious and antiquated chemistry; and thence, as the acid spirit is supposed to reside in air, to an enquiry into the constitution of air. Berkeley finds that air consists of a treasury of active principles, through which a latent vivifying spirit is diffused. This is Fire, Light, or Aether, the Vital Spirit of the universe. Thence the chain leads to speculation about fire,

¹ *Siris*, iii. 157.

which continues for nearly a hundred sections, in which a perfect cloud of witnesses is adduced in favour of the view that fire is the "Animal Spirit of the Visible World."

So far Berkeley has devoted two-thirds of the book to physical, chemical, and biological questions; he has not yet touched metaphysics. But he believed that natural science can give no ultimate explanation even of natural facts. Nature can be interpreted only by a metaphysic which postulates that the natural causes which seem to be responsible for changes in the realm of nature are only natural signs, which presuppose the constant operation of Mind in and on the universe. The world of nature is mind-dependent: its reality is spiritual. So far as this great principle goes, Berkeley still remains true to the conception which has inspired his philosophy from the beginning. But the content of the principle, from the point of view of knowledge, is now very different. The first and last periods agree that the world is dependent on mind, but while in the first period Berkeley interprets this to mean that its existence consists in being perceived, he believes in the last phase that reality consists not in being perceived, but in being known or thought. From the philosophical standpoint *Siris* thus contains both a metaphysic and a theory of knowledge.

In his metaphysic Berkeley repeats his criticism of mechanical explanations of the world. He does not deny the validity, and within proper limits the value, of the laws of natural philosophy. But merely mechanical principles cannot explain or account for anything. The only way to explain a thing is to

assign its appropriate efficient and final causes, and these are never mechanical principles.

Mechanical principles such as the laws of motion are not real but only valid.¹ The laws of nature discovered by "mechanical philosophers" are merely mathematical hypotheses, and do not really exist in nature. The laws of nature have no power and they can produce no effects in the world. Laws of nature are simply statements which we have formulated as rules on observing the uniform production of natural effects in the world. Things happen in a fixed and regular order, which is called "the Course of Nature." Seeing this method and order in the world, we construct, for our own information and practical advantage, general rules to which we believe the world will continue to conform. These mechanical laws teach us what to expect, and direct us how to act. Laws of nature, then, have no real existence: they are simply valid hypotheses.

Further, they are arbitrary hypotheses. We observe a certain constancy and regularity in the world, and we construct statements, based on our observation, which we call laws. But the constancy of the universe, and consequently the natural laws which we ascribe to it, depend wholly on the arbitrary though not capricious will of God. Berkeley insists on the arbitrariness of the action and reaction, the attraction and repulsion, which we observe in the world. "For instance, why should the acid particles draw those of water and repel each other? Why should some salts attract vapours in the air, and

¹ *Siris*, iii. 232-234.

others not?"¹ Berkeley admits that natural philosophers have discovered certain laws of gravity, magnetism, and electricity. But the Author of nature *might* have decreed that the world should be organised according to entirely different rules or laws. Berkeley therefore suggests that in reality events in the world depend not on "the different size, figure, number, solidity, or weight of those particles, nor on the general laws of motion, nor on the density or elasticity of a medium, but merely and altogether on the good pleasure of the Creator."²

It follows, as Berkeley points out, that events in the physical world and laws of nature cannot be causes. "Nothing mechanical is or really can be a cause."³ All that the natural philosopher can give us is an account of the relation of sign and thing signified. Berkeley repeats in *Siris*, without developing it, this dominant idea of his whole philosophy. Now a sign is not a productive or active cause. It merely gives information that in the course of nature such and such another event, the thing signified, will occur. But a cause for Berkeley, in the strict sense, must be "productive." It must be able to make things occur. All causes in the strict sense are agents; and "all agents are incorporeal."⁴

The only real cause, then, is spirit. As infinite, this is God; as finite, selves. The only causality which Berkeley admits to be real is efficient and final causality. God is the supreme efficient and final cause. Berkeley will admit no tampering with the omnipotent and omnipresent efficiency of God. It is "vain and imaginary" of Descartes to suppose

¹ *Siris*, iii. 235. ² *Ibid.* iii. 237. ³ *Ibid.* iii. 241. ⁴ *Ibid.* iii. 240.

that if God merely set his vortices going, the whole world might have been produced as a necessary consequence by the laws of motion. Leibniz has a more adequate theory, for he held that God by his immediate causality actually created the world as it now stands. But Leibniz denies the omnipresent causality of God, in so far as he believes that God may simply leave the world "going like a clock or machine by itself, according to the laws of nature, without the immediate hand of the artist."¹ Berkeley has no sympathy with efforts to extrude God from the universe by allowing him the doubtful privilege of being a "remote original cause." "We cannot make even one single step in accounting for the phenomena, without admitting the immediate presence and immediate action of an incorporeal agent, who connects, moves, and disposes all things, according to such rules, and for such purposes, as seem good to him."²

God is also the supreme final cause. All nature is under his direction, and he concerta it all for one end, the Supreme Good. God is himself the Supreme Good, the great principle of attraction in the world. Throughout *Siris* Berkeley gives a strong teleological cast to his thought. "All things are made for the Supreme Good, all things tend to that end; and we may be said to account for a thing when we show that it is so best."³

In *Siris* finite selves exercise only a very limited causality. Finite selves cause only those actions which are strictly their own. And only those actions are their own for which they are responsible. Finite

¹ *Ibid.* iii. 233. ² *Ibid.* iii. 235-6. ³ iii. 247; cf. iii. 278-9.

selves are not the causes of natural movements such as the systole and diastole of the heart. They have, in fact, a real causality only in the moral realm. They cause only those actions that are definitely willed, and for which they have therefore a moral responsibility.¹ In *Siris* not only is the efficient causality of finite selves thus limited, but they are never regarded as final causes. In the *Three Dialogues* and *Alciphron* Berkeley's universe was really anthropocentric ; God sustained it for man's benefit. But in the metaphysical parts of *Siris*, man and his interests are entirely subordinate to God.

Berkeley takes pains to develop his conception of the world as a spiritual system and organic unity. He insists, on the one hand, on the element of difference and multiplicity in the world. At first sight, we are impressed with the apparent confusion and disorder in the universe. But this is not the last word. Evil, it is true, must exist ; otherwise good would be unmeaning : all natural productions are not perfect ; if they were, perfection also would cease to be. But, as Berkeley everywhere maintains, it is the harmony and not the confusion, the unity and not the difference, that is ultimately characteristic of the universe. Yet Berkeley's universe is not perfectly organic. The symbol of its unity is a chain, and the concatenation of the links of a chain is external. Still, the chain is one chain, and thus bears witness to the unity of the universe. In *Siris* Berkeley has a mystical veneration for unity, derived largely from his study of the Neoplatonists. "The One" or " $\tauὸ\;Ev$ " appears frequently in his

¹ *Siris*, iii. 246.

pages as a name for God, or alternatively for the universe. The supreme principle is unity, which is spiritual ; and whether we call it God or the world makes very little difference. But Berkeley prefers to regard the unity of God as original, and that of the universe as derivative. "One and the same Mind is the Universal Principle of order and harmony throughout the world, containing and connecting all its parts, and giving unity to the system."¹

This general conception of a mind-dependent reality is carried out also in Berkeley's theory of knowledge. It was always his fundamental idea, but in *Siris* the precise meaning of it has changed. If the pre-*Siris* point of view be represented by *esse* is *percipi*, that of *Siris* is *esse* is *concipi*. The progress of Berkeley's thought has resulted in a gradually increasing recognition of the importance of the universal element in knowledge. Concurrently the value and significance of sense-perception has declined, and in *Siris* it is regularly disparaged. Take, for example, such a passage as this. "Sense and experience acquaint us with the course and analogy of appearances or natural effects. Thought, reason, intellect introduce us into the knowledge of their causes. Sensible appearances, though of a flowing, unstable, and uncertain nature, yet having first occupied the mind, they do by an early prevention render the aftertask of thought more difficult ; and, as they amuse the eyes and ears, and are more suited to vulgar uses and the mechanic arts of life, they easily obtain a preference, in the opinion of most men, to those superior principles, which are the later

¹ *Ibid.* iii. 262.

growth of the human mind arrived to maturity and perfection ; but not affecting the corporeal sense, are thought to be so far deficient in point of solidity and reality, *sensible* and *real*, to common apprehensions, being the same thing. Although it be certain that the *principles* of science are neither objects of sense nor imagination ; and that intellect and reason are alone the sure guides to truth.”¹

Another interesting passage reads like an apology for his early sensationalism. “Sense at first besets and overbears the mind. The sensible appearances are all in all : our reasonings are employed about them : our desires terminate in them : we look no further for realities or causes ; till Intellect begins to dawn, and cast a ray on this shadowy scene. We then perceive the true principle of unity, identity, and existence. Those things that before seemed to constitute the whole of Being, upon taking an intellectual view of things, prove to be but fleeting phantoms.”² But though the universal element in knowledge is now by far the more important, Berkeley still retains his original division of knowledge into sense-knowledge and notional knowledge. “There are properly no *ideas* or passive objects in the mind but what were derived from sense : but there are also besides these her own acts or operations ; such are *notions*. ”³

Sensible things, which used to be called *ideas*, are now usually termed *phaenomena*. Berkeley no longer believes that sensible things are real. “All phaenomena are to speak truly appearances in the

¹ *Siris*, iii. 249.

² *Ibid.* iii. 265.

³ *Ibid.* iii. 272.

soul or mind.”¹ They are gross,² and fleeting³ ; they exist only in the mind, a fact which does not prove their reality, but rather how far removed they are from reality.⁴ Perception gives us knowledge only of the surface of things ; it cannot enable us to reach their causes, and we know a thing only when we know its causes.

“Strictly,” Berkeley says, “the sense knows nothing.”⁵ “As understanding perceiveth not, that is, doth not hear, or see, or feel, so sense knoweth not : and although the mind may use both sense and fancy, as means whereby to arrive at knowledge, yet sense or soul, so far forth as sensitive, knoweth nothing.”⁶ In order to have knowledge, the element of judgment is necessary. Berkeley always believed that knowledge is possible only for a judging self, and that the real unit of knowledge is judgment. The significance of this side of Berkeley’s earlier philosophy has been strangely overlooked. Yet this is precisely the philosophical significance of the Theory of Vision. Distance, for example, is not immediately perceived, it is judged. And this element of judgment is involved in all perception. The difference between his earlier and later view is that while in the *New Theory of Vision* he holds that sense-perception includes judgment, in *Siris* the element of judgment is excluded from sense. In *Siris* he says, “We perceive, indeed, sounds by hearing, and characters by sight. But we are not therefore said to understand them.”⁷ We do not understand them, because in order to understand, we must judge them

¹ *Ibid.* iii. 243. ² *Ibid.* iii. 269. ³ *Ibid.* iii. 290. ⁴ *Ibid.* iii. 264.

⁵ *Ibid.* iii. 244. ⁶ *Ibid.* iii. 271. ⁷ *Ibid.* iii. 244.

in relation to other sounds and characters. The element of judgment is essential to all interpretation, and we do not understand a thing fully till we can interpret it and tell what it means.

In *Siris* the supreme importance of the conceptual or notional element in knowledge is always implied ; but very little definite information is given about it. Instead of the term *notion* Berkeley now prefers to use *Idea*. But Idea (spelt with a capital) in *Siris* is very different from idea in the earlier works.¹ The new doctrine of Ideas, which is not really a new one, but simply an old one rejuvenated, shows very clearly the influence of Plato and the Neo-platonists. Berkeley makes no secret of his indebtedness to Plato, and he agrees with Plato that Ideas are (1) not "inert, inactive objects of the understanding," i.e. not ideas in Berkeley's old sense ; (2) not "figments of the mind," i.e. not the products of the imagination ; (3) not "mixed modes," i.e. not complex ideas produced by the operation of the mind ; (4) "not abstract ideas in the modern sense." What then are Ideas ? They are "the most real beings, intellectual and unchangeable ; and therefore more real than the transient, fleeting objects of sense, which, wanting stability, cannot be subjects of science, much less of intellectual knowledge."² These Divine Ideas, which are abstracted from everything corporeal, and which constitute the reality of the world, are so difficult to know, that even the most refined intellect can obtain only a glimpse of them.

¹ But cf. the archetypal Ideas mentioned in *Principles*, § 76.

² *Siris*, iii. 286.

This supreme universal knowledge, in which we see all things in God, or *sub specie aeternitatis*, is therefore impossible for the ordinary man. But he is not entirely debarred from knowledge. Berkeley attempts to bridge the gulf between this pure universal knowledge and sense-perception by making use of Plato's conception of grades of knowing and being. This gulf may be conceived to exist both logically as between the two types of knowledge which appear sharply distinguished in *Siris*, and historically between the sense-intoxicated enthusiasm of the *Commonplace Book* and the mystic rationalism of *Siris*.

(1) Berkeley is at pains to show that sense and reason, as he conceives them in *Siris*, are not cut off with a hatchet from one another. They are logically related, and a psychological transition may be traced from one to the other. The two extremes of what is grossly sensible and what is purely intelligible are connected by memory, imagination, and discursive reason. "By experiments of sense we become acquainted with the lower faculties of the soul ; and from them, whether by a gradual evolution or ascent, we arrive at the highest. Sense supplies images to memory. These become subjects for fancy to work upon. Reason considers and judges of the imaginations. And these acts of reason become new objects to the understanding. In this scale, each lower faculty is a step that leads to one above it. And the uppermost naturally leads to the Deity ; which is rather the object of intellectual knowledge than even of the discursive faculty, not to mention the sensitive."¹

¹ *Siris*, iii. 269.

(2) This gradual ascent from sense to reason may be exemplified, as Berkeley himself sees, in the progress of his own philosophical activity. Historically, the relation of *Siris* to Berkeley's early work is one rather of evolution than of revolution. He has travelled far since the days of the *Commonplace Book*, but he has made no *volte face*. His steps have always been turned in the same direction, and each one of his books marks a stage in his gradual progress. From the very first his architectonic conception has remained the same. The universe is an organic system dependent on God for its reality and its knowability. It is a spiritual unity, and the only forces that can work in it are spirits. This general *Weltanschauung* remains unchanged from first to last. The problem in which the development of Berkeley's thought is notable is the question of the relative importance, within the whole, of sense and reason. Berkeley begins in the *Commonplace Book* (1705-8) by regarding the sense-element as practically the only one in knowledge. In the *Principles* (1710) he recognises that knowledge requires a system of universal meanings, but postpones the treatment of the difficult question of their precise place in knowledge. The *Three Dialogues* simply repeat the general argument of the *Principles* in a more popular form. But in *De Motu* (1721) we find once or twice a sharp opposition between sense-perception and rational knowledge, and an evident disinclination on Berkeley's part to adjudicate between them. In *Alciphron* (1732) the question is for the most part avoided, but the whole atmosphere of the dialogues shows that the trend of Berkeley's

sympathies is away from sense and towards the rational element of universality. In the second edition of the *Principles* (1734) hints are given, in the introduction of the term *notion*, of a doctrine of universal knowledge which connects itself closely with Berkeley's original appreciation of the importance for knowledge of a system of universal meanings or identical references. But so far there is no disparagement of sense. It is only, as we have seen, when we come to *Siris* (1744), that Berkeley explicitly degrades it. And concurrently, reason and the universal element in knowledge proportionately increase in importance.

Berkeley's philosophy ends, as it begins, with a commonplace book. For *Siris* is nothing but a commonplace book, in which the thoughts and reading of his later years are concatenated. Much as *Siris* differs from the *Commonplace Book*, there are some startling similarities which bear testimony to the underlying unity of the life of the Bishop of Cloyne. In both books the practical aim of Berkeley's life is conspicuous. The ultimate purpose of the studies of the *Commonplace Book* is to defend the truth of Christianity, against sceptics and free thinkers, and in *Siris* Berkeley expresses again and again the same opposition to "atheism." All his life he regarded philosophy as the handmaid of the Church. Again, in both books Berkeley is inspired by the conviction that he has discovered a panacea. In the sanguine pages of the *Commonplace Book* "the new principle" is destined to solve all the riddles with which the mind of man is plagued, while in *Siris* tar-water is to cure all the diseases to

which flesh is heir. But in *Siris* the juvenile enthusiasm of the *Commonplace Book* is tempered by the moderation of age. Berkeley is much less sure of himself, and sets his claims for his work very much lower, than in the days of his youth. In the *Commonplace Book* other thinkers' views are mentioned only to be rebutted : in *Siris* he accumulates the testimony of philosophy ancient and modern to the truth of his spiritual conception of the world. In the *Commonplace Book* all things seem transparent : in *Siris* he is forced to admit that "through the dusk of our gross atmosphere the sharpest eye cannot see clearly." And this is doubtless the reason why in his later thinking the emphasis shifts from theory of knowledge to metaphysics. Metaphysics is more congenial to the spirit of the man who, in following out the causes of things, is trying in vain to pierce the veil past which he cannot trace his clues. *Omnia abeunt in mysterium* : but though we cannot know in full, we can at least speculate.

CHAPTER V

MATHEMATICS

In this chapter we shall consider Berkeley's view of the relation of mathematics to philosophy, and examine the criticism of mathematical conceptions which he developed in *The Analyst*.

Mathematics is, on Berkeley's theory, an essentially practical science. The view suggested in the *Commonplace Book*, according to which mathematics is concerned not with theoretical *ἀκριβεῖαι*, but with practical problems of measuring and counting actual things, is strongly emphasised in the *Principles*, where Berkeley states that he looks upon all enquiries about numbers only as so many *dificiles nugae*, "so far as they are not subservient to practice, and promote [not] the benefit of life."¹ To the objection that the New Principle destroys geometry Berkeley rejoins, "Whatever is useful in geometry, and promotes the benefit of human life, does still remain firm and unshaken on our principles."² And in *The Analyst* he suggests again that "the end of geometry is practice."³

Now, Berkeley believes that this practical science of geometry is lower than first philosophy. As early

¹ *Principles*, § 119. ² *Ibid.* § 131. ³ *The Analyst*, iii. 58.

as the *Commonplace Book* he considers, as an objection to his sensationalist theory of mathematics, the view that mathematics is the object not of sense but of reason. To this objection he immediately rejoins, "lines and triangles are not operations of the mind."¹ To make the point of this reply clear, it should be remembered that on his view the operations of the mind are the proper objects of reason or pure intellect; and, as the subject-matter of mathematics consists, not in operations of the mind, but in sensations, it is the province of sense-knowledge and not of reason. "The folly of the mathematicians," he ejaculates, "in not judging of sensations by their senses. *Reason was given us for nobler uses.*"²

In his published works Berkeley sometimes states quite sharply a distinction between mathematics and mathematical physics, forming the subject-matter of sense-knowledge, and the higher and more ultimate "transcendental philosophy," which is the sphere of pure intellect. Thus, in the *Principles* he distinguishes mathematics from the "enquiry concerning those transcendental maxims which influence all the particular sciences."³ And in *De Motu* he insists on the difference between the practical and pedestrian work of the physicist and the "speculations of the highest order" belonging to "a more exalted science" with which the metaphysician is concerned.⁴ "The physicist has in view," he says, "the series or successions of sensible things, studying the laws by which they are related, and the order they preserve; and

¹ *Commonplace Book*, i. 22.

² *Commonplace Book*, i. 88 (italics mine). ³ *Principles*, § 118.

⁴ *De Motu*, § 42.

observing what precedes, as a 'cause,' and what follows, as an 'effect' . . . But it is only by reflection and reasoning that the truly active causes can be elicited from the darkness that envelops them, and thus in any way at all become known. Such enquiries are the concern of first philosophy or metaphysics."¹ And in *The Analyst* he suggests, in the tentative manner which in later life masks his convictions, "Whether there be not really a *philosophia prima*, a certain transcendental science, superior to and more extensive than mathematics, which it might behove our modern analysts rather to learn than despise?"²

This distinction between the lower province of mathematics and mathematical physics and the higher sphere sacred to first philosophy is thus present, in germ at least, throughout the whole of Berkeley's work.³

Berkeley's early attitude to mathematics has already been explained, and we have also pointed out the respects in which his own philosophical conceptions were influenced by current mathematical views.⁴ All this it is unnecessary here to recapitulate; and we therefore, without more ado, proceed to consider the argument of *The Analyst*, which contains the most elaborate treatment he gave to the problems of mathematics.

¹ *De Motu*, §§ 71-72.

² *The Analyst*, iii. 58.

³ Possibly, as Cassirer suggests, Berkeley was influenced by Scholasticism in making this distinction (*Das Erkenntnisproblem*, ii. 241).

⁴ For Berkeley's view of mathematics in the *Commonplace Book*, *vide supra*, pp. 75 ff.; for the way in which his theory of signs was influenced by mathematical conceptions, pp. 209 ff.; and for his application of algebra to ethics, pp. 288 ff.

The Analyst was published in 1734. It is a curious work, and though its purpose is ultimately theological rather than mathematical, it gave rise to a mathematical controversy which lasted for several years and produced more than thirty controversial pamphlets and articles. With the theological argument of *The Analyst* we have little concern. But, before passing to consider its mathematical and philosophical significance, it may be well to mention that the essay is primarily intended as a defence of Christianity, and Berkeley, acting on the principle that the best defence is in attack, criticises the foundations of mathematics on the same lines as those on which Christianity had been opposed by the "mathematical infidels." Christianity had been attacked on the ground that its dogmas are mysterious and incomprehensible. In reply Berkeley maintains that, even if they are, Christianity is not peculiar in that respect. Even mathematics, universally admitted to be the most demonstrable department of human knowledge, is, in this regard, in exactly the same position as Christianity. For it also makes use of mysterious and incomprehensible conceptions, e.g. fluxions and infinitesimals. If mathematicians accept mystery and incomprehensibility in mathematics, they have no right to object to it in Christianity. This is the kernel of Berkeley's argument. Primarily his motive is to defend Christianity, not to attack mathematics.

Berkeley has often been regarded, but quite unjustly, as an enemy of the infinitesimal calculus. In reality, he had no objection in the world to the calculus as such. What he did was to submit

its logical basis to a searching examination. He criticised the conception of infinitely small quantities, which were at that time vaguely conceived as neither zero nor finite, but somehow in an intermediate state. They were said to be "nascent" and "evanescent" quantities, not quite nothing and not quite anything. It was against this vague, mysterious and incomprehensible notion that all Berkeley's attacks were directed; and as soon as it was clearly pointed out by one of the parties to the controversy, Benjamin Robins,¹ that the calculus did not necessarily involve this conception of infinitesimals, but might be demonstrated by the method of limits, Berkeley abandoned the controversy. He had replied to his other critics, such as Jurin of Cambridge (*Philalethes Cantabrigiensis*) and Walton of Dublin, because these mathematicians persisted in trying to defend the conception of infinitely small quantities. But as soon as it became clear, and Robins was the first to make it so, that that conception was not essential to the calculus, the controversy lost interest for Berkeley. For the conception of limits, as Berkeley seems to have realised, is not incomprehensible, and therefore an attack on it would not have enabled him to use his *tu quoque* argument, and thus would no longer serve his purpose, which, it must be remembered, was primarily theological.²

¹ Robins's contributions to the controversy were contained in his *Discourse concerning the Nature and Certainty of Sir Isaac Newton's Methods of Fluxions, and of Prime and Ultimate Ratios* (1735), and in a series of articles in the *Republic of Letters* in 1736 and in the *Works of the Learned* in 1737.

² The course of the "Analyst Controversy," so far as Berkeley was concerned, was as follows. In 1734 *The Analyst* appeared. It was almost immediately attacked by Jurin in an anonymous

But though Berkeley's motive in writing *The Analyst* is a religious one, the chief importance of the book, as we must now try to show, is mathematical and philosophical. It is, indeed, an able treatise on the logic of mathematics. Berkeley saw that the brilliance of the rapidly accumulating results attained by means of the calculus had tended to put into the background the question of its logical basis and the validity of the methods employed by it. And he did good service to mathematics by the publication of *The Analyst*, for he forced upon mathematicians the investigation of the logical basis of the New Mathematics. "I have no controversy," says Berkeley, "about your conclusions, but only about your logic and method. . . . I beg leave to repeat and insist that I consider the geometrical analyst as a logician, *i.e.* so far forth as he reasons and argues; and his mathematical conclusions, not in themselves, but in their premises; not as true or false, useful or

tract entitled *Geometry no friend to Infidelity; or a Defence of Sir Isaac Newton and the British Mathematicians*. To this Berkeley replied in *A Defence of Free-thinking in Mathematics*, published in March, 1735. Jurin then published a rejoinder in July of the same year. Berkeley took no notice of it.

Berkeley had another critic. This was Walton of Dublin, who published in 1735 a *Vindication of Sir Isaac Newton's Fluxions*. It was replied to by Berkeley in an appendix to the second edition of his *Defence of Free-thinking in Mathematics*. Walton replied, and Berkeley then published his *Reasons for not replying to Mr. Walton's Full Answer*. All this was in 1735. Walton issued a rejoinder, but Berkeley took no further part in the controversy.

It is noticeable that Berkeley participated vigorously in the controversy until Robins's book appeared. After that he says not a word. The reason is, as we have said, that Robins showed that infinitesimals were not essential to the calculus. Berkeley must have been convinced by his arguments, and therefore realised that it was no longer possible, from his point of view, to take part in the controversy.

insignificant, but as derived from such principles, and by such inferences."¹ As a direct result of this investigation, originated by Berkeley, three highly important principles were firmly established (1) that the calculus must be grounded on the method of limits, (2) that the then current conception of infinitesimally small quantities must be abandoned, and (3) that the calculus does not proceed by means of the compensation of errors.²

These points will become clear if we examine Berkeley's criticism of Newton's theory of fluxions. In our investigation there are three main questions which we must ask. (1) Is Berkeley's criticism of Newton valid? (2) Is Berkeley's criticism of current conceptions of infinitesimals sound? (3) Did Berkeley really expose any fallacies in the calculus?

(1) First, then, we must consider whether Berkeley is successful in his criticism of Newton. To know that, we must know what Newton's theory of fluxions really was. To that preliminary question we now turn our attention.

Newton considered that quantities are continuously generated by motion. As the ancients believed that rectangles are generated by the movement of one side upon the other, so as to describe the area of the rectangle, Newton held that the areas of curvilinear figures are generated by drawing the ordinate into the abscissa. All quantities, including indeterminate quantities, may thus be regarded as generated by continuous increase. All quantities which thus

¹ *The Analyst*, § 20.

² See Prof. G. A. Gibson, Review of Cantor's "Geschichte der Mathematik" in *Proc. Edin. Math. Soc.*, 1899, pp. 9-32.

increase by motion Newton calls *flowing quantities*. The velocities of their increase he terms *fluxions*, and the infinitesimally small parts of these quantities generated by the continuous motion he names *moments*. Motion in time he regards as continuous and uniform, and consequently the moments generated are all equal. Further, and this is one of the points chiefly attacked by Berkeley, Newton is prepared to calculate the increase or decrease of the fluxions, *i.e.* the velocities of velocities or the fluxions of fluxions. These are called second fluxions. Such, in very brief outline, is Newton's position.

But there is one special point which must be examined with some care, for upon it depends the applicability of Berkeley's criticisms to Newton. The question is this. Did Newton really use the conception of infinitely small quantities, in which case he would be exposed to the full force of Berkeley's arguments, or was his method really that of limiting ratios, in which case Berkeley's criticisms would be, so far as Newton is concerned, directed against a man of straw?

It is often held that Newton never used the conception of infinitely small quantity, but it was conclusively established by De Morgan that this conception does appear in some of his works. De Morgan maintains that, until the year 1704, when his *Opticks* was published, Newton did use infinitely small quantities. "In Newton's earliest papers," says De Morgan, "the velocities are only differential coefficients: when A changes from x to $x + o$,

B changes from y to $y + \frac{oq}{p}$, the velocities being p

and q . Those terms in which o remains are "infinitely less" than those in which it is not, and are therefore "blotted out." And those terms also vanish in which o still remains, because they are infinitely little."¹ Again, in the first edition of the *Principia*, published in 1687, fluxions are founded on infinitesimals, moments being regarded as infinitely small quantities. De Morgan confirms this by relevant quotations from Newton's *Method of Fluxions* (written in the period 1671-1676) and his *Quadratura Curvarum*, which was originally written about the same time. So far, Newton certainly made use of the conception of infinitely small quantities.

But in 1704 the *Quadratura Curvarum* was issued in an appendix to the *Opticks*. It contained a new preface with some most important statements in connection with infinitesimals. "I here consider mathematical quantities not as consisting of minimal parts, but as described by continuous motion."² "I was anxious to show that in the method of fluxions there is no need to introduce into geometry figures infinitely small."³ Now Berkeley was well aware that the conception of infinitesimals had been disclaimed by Newton. In the early essay *Of Infinites* he says, "Sir Isaac Newton, in a late treatise,"⁴

¹ "On the Early History of Infinitesimals in England" (*Philosophical Magazine*, 1852, iv. 322-323).

² "Quantitates Mathematicas non ut ex partibus quam minimis constantes, sed ut motu continuo descriptas hic considero."

³ "Volui ostendere quod in Methodo Fluxionum non opus sit Figuras infinite parvas in Geometriam introducere."

⁴ This refers to the *Quadratura Curvarum*. Berkeley's *Of Infinites* was written about 1706-7.

informs us his method of Fluxions can be made out *a priori*, without the supposition of quantities infinitely small.”¹

But in 1713, when the second edition of the *Principia* was published, Newton again admitted, though very obscurely, infinitely small quantities.² From all this we may conclude that, while Newton did not give exclusive adhesion to the method of infinitesimals, yet the conception of infinitely small quantity does occur in his writings previous to 1704, and though it was renounced in that year it reappears in the second edition of the *Principia* in 1713. It therefore follows that Berkeley's criticism is pertinent. Newton, we have decided, did maintain the existence of infinitely small quantities, and it is against these that Berkeley argues.

Berkeley points out a serious inconsistency in Newton's conception of infinitely small quantities. He shows that at one time Newton admits that infinitely small moments may under certain circumstances be altogether omitted in calculation. Against this he arrays Newton's declaration that even the smallest possible errors must not be overlooked in mathematical operations. Now, the former statement is made by Newton in the *Principia* and the

¹ Berkeley's *Works*, iii. 412.

² This point has been regarded as open to doubt. It depends on Newton's definition of “moment.” The definition is stated very obscurely, and somewhat differently, in the first and second editions, in bk ii. lemma ii. But Edleston cites a letter from Newton in May, 1714, to Keill, in which Newton says explicitly, “Moments are infinitely little parts” (*J. Edleston, Correspondence of Sir Isaac Newton and Professor Cotes*, p. 176). This seems to be conclusive evidence that Newton still clung to infinitesimals.

latter in the *Quadratura Curvarum*. The two statements are obviously inconsistent. Berkeley's critics tried to defend Newton in various ways, but neither of them dared to admit, even if they perceived it, that the inconsistency was due to a change in Newton's system. In the *Principia*, holding a conception of infinitesimals, he is forced (precisely as the continental exponents of the Differential Calculus were forced) to admit that infinitely small quantities are, in calculation, negligible in comparison with those of finite magnitude. On the other hand, in the *Quadratura Curvarum*, having renounced infinitesimals, he is free to assert that even the smallest errors cannot be permitted. Robins was the first of Newton's defenders to see clearly that the systems were different; and that, if Newton's position were to be seriously defended, it would be necessary to admit frankly the change of system, and to maintain that for Newton the really fundamental method is the method of limits.¹

¹ Berkeley has been accused of bad faith in advancing this criticism. He must have seen, it is argued, that the Newton of the first edition of the *Principia* held a different position from the Newton of the *Quadratura Curvarum*, and therefore he was not justified in arraying the statements of these two periods against one another as evidence of present inconsistency (cf. A. de Morgan, *op. cit.*, p. 329). But such an argument overlooks two or three very material facts. The first is that Newton himself nowhere explicitly admits a change of system; in fact he seems anxious to conceal that such a change had taken place. Further, with the exception of Robins, Newton's followers were far from clear whether or not a change had taken place, and, in any case, Newton seems to have returned to the conception of infinitely small quantities in 1713. Now, *The Analyst* was not published till 1734, and at that distance of time Berkeley may quite well have regarded the renunciation by Newton of infinitesimals in 1704 as a temporary aberration.

This is what Robins did, and it has come to be realised that the conception of limits forms the true logical basis of the calculus. Berkeley's general criticism of Newton is perfectly valid, and it was largely owing to his objections that the difference between the two methods came to be fully appreciated, and that eventually a method of limits akin to that of Newton was established as the foundation of the calculus.

But in two respects Berkeley is unfair to Newton.

(a) He never lets his reader know that Newton used the method of limits, and always speaks as if Newton had always held that the method of infinitesimals was essential to his doctrine of the calculus. Now, the truth is, as Robins pointed out, that everything of fundamental importance in Newton's work is perfectly consistent with the method of limits.

(b) He gives Newton no credit for his doctrine of continuity. Newton's infinitesimals are, after all, never so self-contradictory as those of Leibniz or even of his own followers. His infinitely small quantities are not, like Leibniz's differentials, discrete particulars. The Leibnitians hold that the "difference" of a line is an infinitely little line, the "difference" of a plane an infinitely little plane, and so on. And Newton's own followers used the conception of infinity in an equally rash way. Thus De Moivre regards the fluxion of an area as an infinitely small rectangle,¹ and Halley, to whom Berkeley refers in the *Commonplace Book*, speaks of infinitely small *ratiunculae* and *differentiolas* in much the same way as the Leibnitians.² Hayes, again,

¹ *Philosophical Transactions*, 1695, no. 216. ² *Ibid.*

another follower of Newton, to whom Berkeley also refers, maintains the conception of infinitely small quantities with much frankness. "Magnitude," he says, "is divisible *in infinitum*. Now those infinitely little parts, being extended, are again infinitely divisible; and those infinitely little parts of an infinitely little part of a given quantity are by geometers called *Infinitesimae Infinitesimarum* or *Fluxions of Fluxions*."¹ Now, Newton himself does not speak in that way. He never forgets that his whole system is based on the continuity of motion. Lines are generated by the motion of points, planes by the motion of lines, and solids by the motion of planes. Fluxions, as we have seen, are strictly the velocities of the generating motions. The continuity of motion, generating lines, surfaces, etc., with varying velocities, involves the conception of prime and ultimate ratios. But to Newton's theory of continuity Berkeley seems to be blind.

(2) Having considered the respects in which Berkeley's criticism of Newton is sound, we may now proceed to ask whether his criticism of infinitesimals in general will bear examination.

The general criticism of infinitesimals consists of two arguments, one only of which seems to be valid.

(a) Berkeley argues—to take first the contention that seems unsound—that infinitesimals are impossible because imperceptible. An infinitely small quantity cannot be the object either of sense-perception or imagination, and, in accordance with the formula *esse est percipi*, it can therefore have no

¹ *A Treatise of Fluxions*, 1704 (quoted by A. de Morgan in *Essays on the Life and Work of Newton*, p. 91).

existence. "As our Sense is strained and puzzled with the perception of objects extremely minute, even so the Imagination, which faculty derives from Sense, is very much strained and puzzled to frame clear ideas of the least particles of time, or the least increments generated therein; and much more so to comprehend the moments, or those increments of the flowing quantities *in statu nascenti*, in their very first origin or beginning to exist, before they become finite particles."¹

Now, this argument is simply at the level of picture-thinking. It does not follow that what we are unable to perceive in sense-perception or to represent in imagination is non-existent. At one time Berkeley's New Principle would have necessitated this argument, but when *The Analyst* was written he had outgrown the cruder form of his early theory, and in his doctrine of notions he admitted that we can have knowledge which comes neither through sense nor imagination. He was prepared to allow that we might have real knowledge not sensuous in its origin. His retention of the argument here is a sign that he was not yet completely emancipated from his early sensationalism.

(b) Berkeley's second general argument against infinitesimals is perfectly sound. He points out that the conception of the infinitely small, whether in the form in which it appears in Newton and his followers, or as maintained by Leibniz, is impossible. It is impossible because it is self-contradictory. Whether we regard infinitesimals with Leibniz as differences, i.e. infinitely small increments or decrements, or

¹ *The Analyst*, § 4.

with Newton as fluxions, i.e. velocities of nascent or evanescent increments, they involve in their nature an ultimate contradiction. On the one hand, an infinitesimal seems to be something, for otherwise it would not be used in mathematics; but, on the other, it seems to be nothing, for mathematicians say it may be neglected in calculation without affecting the accuracy of their results. Sometimes it is called a nascent quantity, i.e. one which has left being nothing, but has not yet quite become anything; at other times it is called evanescent, i.e. a quantity which is still something, but almost (though not quite) nothing. This conception, Berkeley insists, is ultimately incomprehensible and contradictory. His criticism here is, of course, perfectly sound. Infinitesimals, conceived in this vague and loose way, have now, very largely owing to the process of criticism initiated by Berkeley, been entirely extruded from the calculus.

(3) The last problem which we set before ourselves is this. Did Berkeley, apart from stimulating the investigation of the logical basis of the calculus, expose any real errors in it? From Berkeley's argument in *The Analyst* it would seem that two main errors infect the calculus. Berkeley maintains (a) that any attempt to demonstrate the value of a fluxion involves the violation of ultimate logical principles, and (b) that the maxim that infinitely small errors compensate one another is vicious. A word or two must be said on each of these points.

(a) In order to prove the illogicality of the methods of determining the value of fluxions, Berkeley examines, in some detail, the two independent demon-

strations given by Newton. In the *Principia* Newton gives a geometrical proof, in the *Quadratura Curvarum* an algebraic one. In each case, Berkeley seeks to show, a closely similar error is committed.

Take first Newton's geometrical demonstration. We wish to find the fluxion of the rectangle AB generated by the continuous motion of one side upon the other. Let the moments or momentaneous increments of A and B be a and b respectively.

When the sides of the rectangle are each diminished by half their moments, the rectangle becomes

$$(A - \frac{1}{2}a)(B - \frac{1}{2}b),$$

$$\text{i.e. } AB - \frac{1}{2}aB - \frac{1}{2}bA + \frac{1}{4}ab.$$

Similarly, when the two sides are increased by half their moments, the rectangle becomes

$$(A + \frac{1}{2}a)(B + \frac{1}{2}b),$$

$$\text{i.e. } AB + \frac{1}{2}aB + \frac{1}{2}bA + \frac{1}{4}ab.$$

Subtract now the former rectangle from the latter, and the remainder is $aB + bA$. This remainder is the moment of the rectangle generated by the moments, a, b of the sides. Such is Newton's proof.

In criticism of it Berkeley maintains that the natural and direct method of obtaining the moment of the rectangle AB , when the moments of its sides are a, b , is to multiply into one another the sides increased respectively by their *whole* moments.¹ The moment of the rectangle is therefore

$$(A + a)(B + b) - AB,$$

$$\text{i.e. } AB + aB + bA + ab - AB,$$

$$\text{i.e. } ab + bA + ab.$$

¹ *The Analyst*, §§ 9 ff.

This, Berkeley says, is the true moment or increment. It differs from that obtained by Newton's proof by the quantity ab . Now, as it was essential for the method of fluxions to eliminate the term ab , Newton and his followers said that it was so infinitely small that it could simply be neglected. But against this defence Berkeley quotes Newton's own words, "In rebus mathematicis errores quam minimi non sunt contemnendi."¹

Berkeley also shows that Newton's algebraic proof rests on illegitimate assumptions.² In this demonstration we are given the uniformly flowing quantity x , and it is required to find the fluxion of x^n .

Suppose that x , in process of constant flux, becomes $x + o$, then x^n becomes $(x + o)^n$. Expanding this by the method of infinite series, we get

$$x^n + nox^{n-1} + \frac{n(n-1)}{2} o^2 x^{n-2} + \dots$$

(i.e. the increment of x^n is $nox^{n-1} + \frac{n(n-1)}{2} o^2 x^{n-2} + \dots$).

It follows that the increments of x and x^n are to each other as o to $nox^{n-1} + \frac{n(n-1)}{2} o^2 x^{n-2} + \dots$;

or, dividing by the common quantity o , as

$$1 \text{ to } nx^{n-1} + \frac{n(n-1)}{2} ox^{n-2} + \dots$$

Now, "let the increments vanish," and the last or limiting proportion is $1 : nx^{n-1}$. The ratio of the fluxion of x to that of x^n is as 1 is to nx^{n-1} .

¹ These words occur in the Introduction to the *Quadratura Curvarum*.

² *The Analyst*, §§ 13 ff.

Berkeley points out that this reasoning is illogical. If we say, "Let the increments vanish," we must imply that the increments are really nothing, seeing that they are negligible. But we are enabled to arrive at the proportion between the fluxions only by assuming that the increments are something. Berkeley accordingly maintains that it is illogical to reject the increments and still retain an expression, *i.e.* the proportion of the fluxions, obtained by means of them. If we let the increments vanish, we must also in consistency let everything derived from the supposition of their existence vanish with them.

This criticism Berkeley supports with a lemma, which he states as follows, "If, with a view to demonstrate any proposition, a certain point is supposed, by virtue of which certain other points are attained; and such supposed point be itself afterwards destroyed or rejected by a contrary supposition; in that case, all the other points attained thereby, and consequent thereupon, must also be destroyed and rejected, so as from thenceforward to be no more supposed or applied in the demonstration."¹

(b) Berkeley goes on to urge that, even though correct results are attained by the application of the method of fluxions, that does not validate the method as method. That the conclusion of a syllogism is true does not necessarily imply that the process of reasoning is correct. The conclusion may be true, and yet logical errors may have been committed in the process of proof. It is possible to reach a true conclusion from false premises by

¹ *The Analyst*, § 12.

erroneous reasoning. One error compensates the other. Though the conclusion is true, the logic is faulty. Precisely similar is the case of the calculus. True conclusions may be attained by it, and results of great practical value may be achieved, but its method is unsound, because it is based upon the vicious principle of the compensation of errors.

These, then, are the arguments which Berkeley advances in *The Analyst*. In the controversy which ensued all the points that he raised were traversed and retraversed, with the result that (1) the vague conception of infinitesimals is abandoned, (2) the method of limiting ratios becomes firmly established, and (3) the principle of the compensation of errors is seen to be inconsistent with the logical foundation of the calculus.

But the result of the controversy may be stated in more philosophical terms. It may be said to have established the principle of continuity as opposed to that of discreteness. Discreteness, whether in the form of the indivisibles of Cavalieri, or the momentaneous increments of Newton's followers, or the differentials of Leibniz, was found to be incomprehensible. But the principle of continuity is firmly grounded.

Thus, though Berkeley was successful at most of the particular points in the controversy, the philosophical conclusion to be based upon these results was alien to his way of thinking. For his own philosophy lays all the stress on discreteness at the expense of continuity. For him, there are no really continuous lines, for every line consists of an infinite number of atomic and therefore discrete points.

X
finite?

A curve is not to be regarded as generated by a continuously moving ray ; it also is composed of a finite number of discrete points. The objects of perception are not continua into which differentiation is introduced ; they are complexes of numerically distinct and atomic *minima sensibilia*. Berkeley does, indeed, use the term "continuity," but by that he means nothing but discreteness. He says, for instance, in the *Commonplace Book*, "Why may not I say visible extension is a continuity of visible points, tangible extension is a continuity of tangible points ?" ¹ What he really means by continuity here is that, according to his theory, visible extension is a mere aggregate of discrete *minima visibilia*, and tangible extension a mere aggregate of *minima tangibilia*. His conception of mathematical knowledge is completely atomistic.

Everywhere in Berkeley's philosophy we find the same penchant to discreteness. Throughout he lays emphasis on the discrete, the finite, the particular, as against the continuous, the infinite, and the universal.

But this emphasis is very considerably modified in *Siris*, Berkeley's only important work after *The Analyst*. In *Siris*, as we have seen, he shows very much greater appreciation than before for what may be called, for short, universality and absoluteness. But his theory of mathematical knowledge has neither part nor lot in this change of attitude. Mathematics remains on the old plane of sense and particularity. Thus is consummated the tendency, suggested even in the pre-*Siris* works, to distinguish

¹ i. 63.

sharply between mathematical science and transcendental philosophy. It is only because this distinction is present in *Siris* that Berkeley is able to maintain his sensationalist view of mathematics alongside his altered metaphysics. In his view, mathematics is in a different compartment of knowledge from first philosophy ; therefore it may be left to itself at its lower station, for it will not be affected by the speculations carried on at the heights of transcendental philosophy.

CHAPTER VI

ETHICS

THOUGH Berkeley published no systematic ethical treatise, it is certain that at one time he intended to write in detail on the problems of morality. In the sanguine pages of the *Commonplace Book*, the New Principle is destined to simplify all sciences and solve every difficulty. In the expectation of its author, it will "remove the mist or veil of words,"¹ and enable men to see things as they really are. And in the *Principles* the claims which he puts forward on behalf of the New Principle are as insistent as ever. It will "abridge the labour of study, and make human sciences more clear, compendious, and attainable than they were before."² After this assertion, he goes on to state some of the consequences of the theory in mathematics and natural philosophy. Now, in his view, these branches of science form two of the three departments of useful knowledge, the third being ethics. He believed that there are three kinds of truth—natural, mathematical, and moral—which are to be found respectively in what he calls the three departments of useful knowledge, viz. natural philosophy,

¹ i. 33.

² *Op. cit.* § 134.

mathematics, and ethics.¹ Thus, in order to complete his scheme in the *Principles*, as he has already mentioned the consequences of the New Principle in two of the three departments of useful knowledge, he ought to have given some indication of the application of the theory to ethics. But only the vaguest hint is dropped. If the Principle be applied to morals, he says, "errors of dangerous consequence in morality . . . may be cleared, and truth appear plain, uniform, and consistent." "But," he continues, "the difficulties arising on this head demand a more particular disquisition than suits with the design of this treatise."² That Berkeley himself regarded this non-committal statement as tantamount to a promise to deal specially with ethics is suggested by the fact that this sentence was omitted in the second edition of the *Principles*, which was published after he had abandoned the design of the special dissertation. And, indeed, we know definitely from a statement in the *Commonplace Book* that the treatise in which it was his purpose to deal with ethics was the projected Part II. of the *Principles*.³ But, as we have already mentioned, the unfinished manuscript of it was lost during his travels in Italy, and he never attempted to rewrite it.

But though accident has deprived us of this specifically ethical work, yet there is a fair amount of material on ethical subjects scattered up and down

¹ *Commonplace Book*, i. 37.

² *Principles*, § 144.

³ "The two great principles of morality," he says, "to be handled at the beginning of the Second Book." There is no doubt that the "Second Book" refers to Part II. of the *Principles*.

Berkeley's writings. It is enough not only to enable us to reconstruct the main outlines of Berkeley's views, but also to trace their development. The *Commonplace Book* teems with suggestive remarks which probably give some idea of the argument of the lost Part II. of the *Principles*, *Passive Obedience* is, in the main, an ethical treatise, two of the essays in the *Guardian* and three of the dialogues in *Alciphron* are chiefly concerned with morals, and there are a few hints in the *Principles* and *Siris*.

In the *Commonplace Book* the facts of morality are prominently before Berkeley's mind. In ethics, as in other departments of philosophy, he was deeply influenced by Locke. Many of the entries in the *Commonplace Book* are unintelligible unless it is remembered that they have Locke in view. We find, for example, such isolated entries as, "Morality may be demonstrated as mixt Mathematics,"¹ "Three sorts of useful knowledge—that of Co-existence, to be treated of in our principles of Natural Philosophy; that of Relation, in Mathematics; that of Definition or inclusion, or words (which perhaps differs not from that of relation) in Morality."² Most of Berkeley's memoranda on ethics in the *Commonplace Book* reveal or conceal a reference to Locke; and in order to appreciate their significance, it is necessary to bear in mind Locke's theory of ethics.

For Locke ethics is a perfectly demonstrable science, because in ethics we have real knowledge. He treats of the reality of knowledge in Book IV. Chapter iv. of the *Essay*—a chapter which Berkeley

¹ i. 46.

² i. 55.

reminds himself in the *Commonplace Book* "to discuss nicely"—and maintains that our knowledge is real only so far as there is a conformity between our ideas and real things.¹ Locke is aware of the difficulty how the mind, which perceives nothing but its own ideas, can yet know that these ideas agree with things; but he thinks that there are "two sorts of ideas that we may be assured agree with things." These are (*A*) all simple ideas, and (*B*) all complex ideas, except those of substance. But the grounds on which we ascribe reality to knowledge in the case of these two sorts of ideas are very different. Simple ideas give us real knowledge because they are regularly and naturally produced in us by the operation of things outside us. This uniform production guarantees the conformity of ideas to things. On the other hand, complex ideas are produced by the mind itself, independently of things. They are ideas which the mind puts together without considering any connection they may have in nature. Ideas are the archetypes, and things are considered at all only in so far as they conform to them. In (*A*) ideas conform to things; in (*B*) things conform to ideas. In both cases conformity can be predicated, and therefore in both cases we have real knowledge.

Locke gives two examples of sciences in which we have this real knowledge, mathematics and ethics. Both these sciences consist of perfectly demonstrable propositions. Both are concerned not with simple ideas, which always imply as their archetypes concrete things, but with complex ideas, which are their

¹ *Essay*, iv. iv. 3.

own archetypes. Mathematics and ethics deal entirely with those abstract ideas, which Locke calls mixed modes and relations. These have no concrete existence, but they give us real knowledge. "Mixed modes and relations, having no other reality but what they have in the minds of men, there is nothing more required of those ideas to make them real but that they be so framed that there is a possibility of existing conformable to them."¹ In mathematics we abstract from all the implications of concrete existence. The mathematician considers the properties of circle or triangle as abstract ideas. It is true of the idea of a triangle that the sum of its angles is equal to two right angles. The idea of a triangle is so framed as to make it possible that a real concrete triangle should exist conformable to it. But whether such a "real" triangle exists is quite irrelevant to the mathematician.

Similarly, in ethics we deal only with abstract ideas. "When we speak of justice or gratitude, we frame to ourselves no imagination of anything existing, which we would conceive; but our thoughts terminate in the abstract ideas of those virtues."² Ethics is thus a purely abstract science. To the moral philosopher it is of no moment whether a concrete just act anywhere exists. "The truth and certainty of moral discourses abstracts from the lives of men, and the existence of those virtues in the world of which they treat."³

Mathematics and ethics are both demonstrated on the basis of certain axioms and definitions. Between moral ideas there are the same necessary relations

¹ II. xxx. 4. ² III. v. 12. ³ IV. iv. 8; cf. III. v. 12 and IV. iv. 8.

as hold between mathematical ideas. Locke admits that ethics is not popularly placed on the same level of demonstrative certainty as mathematics, but that is because it is more difficult in ethics than in mathematics to reach agreement with regard to the names to be applied to ideas. In mathematics there is universal agreement with regard to the idea signified by the word triangle. But in morals there is no such agreement.¹ The prevalence of misnaming, though it detracts from the obviousness of the certainty of our knowledge in ethics, does not affect the certainty itself. If men could reach agreement in their definitions of moral ideas, then the whole science of ethics would be seen to follow analytically from these definitions. "I doubt not but from self-evident propositions, by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out."²

Mathematics and ethics alike are pure *a priori* sciences, independent of the matter-of-fact of experience. If they had to do with concrete experience, they would consist of (a) simple ideas, or (b) complex ideas of substance. In neither case would the science be demonstrative, or consist of universal propositions. For, (a) simple ideas give us knowledge that is "barely particular," from which no universal propositions can be inferred; and

¹ Locke mentions two other reasons why ethics is more difficult to demonstrate than mathematics. (1) Mathematical ideas are capable of sensible representation, e.g. in diagrams, but not so moral. (2) Moral ideas are generally more complex than mathematical (*Essay*, IV. iii. 18).

² IV. iii. 18; cf. III. xi. 16.

(b) the general knowledge we gain from complex ideas of substance is "merely probable."

Locke never abandoned his belief in a mathematically demonstrated science of ethics, though he came to feel less and less able to demonstrate it himself.¹ This is clear both from the changes which he introduced in the fourth edition of the *Essay*,² and from his letters to Molyneux. Molyneux repeatedly requested him "to oblige the world with a treatise of morals . . . according to the mathematical method." Locke replied (September 20, 1692), expressing distrust of his ability to undertake the task; but promising to consider it. Nearly four years later he finally declined to undertake it.

It is thus not strange that Berkeley, already keenly interested in mathematics, should have felt that the mathematical demonstration of ethics was a task ready-laid to his hand. Locke had given one hint of the precise way in which the mathematical method might be followed in a demonstrative moral science. Locke held that certainty means simply the agreement or disagreement of our ideas, and that demonstration consists in making clear that agreement by employing intermediate ideas or media. Now in mathematics algebra had been of use in supplying these intermediate ideas, and Locke is inclined to think that by applying algebra in ethics a demonstrably certain system will be produced.³

¹ The examples which Locke gives (iv. iii. 18) are justly said by Berkeley to be "trifling propositions" (*Commonplace Book*, i. 39).

² Compare the fourth edition with the first at iv. ii. 9.

³ Cf. iv. iii. 20; and iv. xii. 14.

Berkeley was not slow to fasten on this hint. "N.B.," he says in the *Commonplace Book*, "To consider well what is meant by that which Locke saith concerning algebra—that it supplies intermediate ideas. Also to think of a method affording the same use in morals &c. that this doth in mathematics."¹ At this time Berkeley was much interested in algebra,² and he saw that if algebra were applied to morals, the result could not be a pure mathematical science. Algebra is itself a branch of pure mathematics, for it deals with signs in abstraction from the things they signify.³ But the algebra of ethics would be a department of applied mathematics.⁴

¹ i. 40.

² Cf. the many references in the *Commonplace Book*, and the article "De Ludo Algebraico" in *Miscellanea Mathematica*, 1707.

³ i. 47; cf. *supra*, 209 ff.

⁴ It is a noteworthy fact that nearly every philosopher of the seventeenth century believed in the possibility of a mathematical treatment of ethics. The instance that leaps to the mind is, of course, Spinoza's *Ethica Ordine Geometrico Demonstrata*. In the *Ethica* of Gueulinex there are suggestions towards a mathematical system of ethics. Leibniz also holds that it may be convenient to treat ethics on the geometrical method (*Nouveaux Essais*, iii. xi. 17 and iv. xii. 8). In England both Cumberland and Locke held the view. Suggestions towards it are also to be found in Hobbes.

There are probably two main reasons for these persistent attempts to apply mathematical reasoning to ethics.

(1) So long as Scholasticism held the field, the validity of ethical criteria rested on the authority of the Church. Moral judgments on which the Church set its seal could never be called conventional or contingent. The Church drew a line between what was right and what was wrong. The line might be exceedingly sinuous and tortuous, but the authority that drew it was unquestioned. But with the coming of the Renaissance and the Reformation all this was changed. The question of the authority of the moral standard became a very real one. If the supreme moral authority of the Church was denied, how was moral heterodoxy to be met? To this question only two answers could

Thus, "morality may be demonstrated as mixt Mathematics."¹

Morality, then, for Berkeley, may be demonstrated as "mixt" or applied mathematics. It was fresh in his mind that Newton had applied mathematics, with wonderful success, to the solar system; and it required no great stretch of imagination to hope for significant results from the application of mathematical methods to the study of human conduct. What Berkeley understood by the application of mathematics to a certain subject-matter

be given. Either ethics must become theological again, or it must become mathematical. These were the alternatives. Therefore those who for any reason disliked the idea of a theological ethics or thought it philosophically inadequate, were driven to attempt to demonstrate ethics mathematically. For Descartes, for Spinoza, for Locke, and for the philosophers of the seventeenth century as a whole, science means, in the main, mathematics and mathematical physics. Thus when the seventeenth century philosopher attempts to treat ethics on the mathematical method, he is simply feeling after a truly scientific system of ethics. Cf. Glanvill's *Scepsis Scientifica*, p. 179, and John Sergeant's *Method to Science*, 1696, Pref. p. 6 ff.

(2) It was largely owing to Descartes that mathematics came to be the only science of the day, and the influence of Descartes was mainly responsible for the unanimity with which the seventeenth century sought to attain a mathematical science of ethics. Descartes himself produced an example of a philosophical argument treated mathematically. An objector remarks, in the second set of Objections, "It would be well worth the doing if you advanced as premises certain definitions, postulates, and axioms, and thence drew conclusions, conducting the whole proof by the geometrical method." In his reply Descartes elaborately distinguishes geometrical method from geometrical order, and then gives a sample treatment of metaphysics *more geometrico*. This undoubtedly had a direct influence on both Geulinex and Spinoza. The latter threw his version of Descartes' philosophy (*Principia Philosophiae Cartesianaæ*) into geometrical form. Whether in this matter Descartes exercised any direct influence on Hobbes and Locke is more open to doubt.

¹ i. 46.

has already been explained ;¹ and we have discussed his attempts to construct a theory of nature on algebraic lines.² Though he hoped for equal success in the application of algebra to human conduct, he never worked out his Algebra of Ethics.

Yet he said enough to show that his system would have diverged widely from Locke's. The difference between their theories of ethics would have been exactly parallel to that between their conceptions of mathematics. For Locke mathematics is a pure science, dealing with relations of universal ideas, abstracted from all concrete existence. On the other hand, as we have already seen, Berkeley holds that mathematics is essentially practical. The speculative parts of mathematics, which are concerned with *difficiles nugae*, are cut away by the New Principle ; and only those portions of arithmetic and geometry that are "useful" and "practical" will remain.³

In precisely the same way Berkeley's theory of ethics differs from Locke's. Ethics is for Locke a pure science, having as its subject-matter relations of ideas, and omitting all question of the realisation of these ideas in the concrete matter-of-fact of moral experience. But Berkeley's view is very different. Ethics is an applied or practical science. It is concerned throughout with actual conduct : its subject-matter is moral experience, not theories about moral experience. And its great aim is the improvement of conduct, and the advancement of "the good cause of the world."

¹ *Vide supra*, p. 214.

² Cf. *Principles*, § 121 and § 131.

² *Vide supra*, p. 219.

Ethics, again, is for Berkeley a demonstrative science. But by that he does not mean, as Locke would have said, that its demonstrability consists in proving relations of ideas by means of intervening ideas.¹ In Berkeley's view, ethics is not concerned with ideas at all, but with words or signs ; and it is by means of these words or signs that it must be demonstrated. "We have no ideas," Berkeley asserts, "of virtues and vices, no ideas of moral actions."² In other words, we can neither perceive nor imagine virtue or vice in abstraction from concrete particular virtuous or vicious actions. Thus if the demonstrability of ethics depends on the consideration of relations between ideas, as Locke maintained, Berkeley fears that it will be impossible to arrive at demonstrative truth in ethics ; and he insists that those who agree with Locke that we may have ideas of morals have given themselves, in the demonstration of ethics, an impossibly difficult task.³ It is impossibly difficult, because we can have no certainty about ideas, as Locke supposed, but only about words.⁴ We may, indeed, *reason* about ideas ; but by doing so we shall never attain demonstrative certainty : "demonstration can be only verbal."⁵ Perfect demonstration, that is, is possible only when we are dealing with words or signs. And Berkeley states as his conviction that "to demonstrate morality it seems one need only make a dictionary of words, and see which included which."⁶

¹ Cf. *Commonplace Book*, i. 40 and i. 43. ² *Ibid.* i. 36.

³ *Commonplace Book*, i. 38. ⁴ *Ibid.* i. 43. ⁵ *Ibid.* i. 50.

⁶ *Ibid.* i. 39. Cf. John Sergeant's view, *infra*, p. 390.

This utterance in itself is perhaps rather cryptic, but, if we bear in mind Berkeley's general view of the applicability of algebra in the various departments of knowledge, its meaning becomes plain. In his view, algebra is "purely verbal" and "entirely nominal";¹ it deals with relations of arbitrary signs, and demonstration is possible, when they are employed, because there is uniformity in their use. Though they are arbitrary, their meaning is universally agreed upon ; and therefore demonstration by their means is of absolute cogency. Now, words are not so suited for demonstration as signs, because there is not universal agreement as to the meaning of words. Mathematicians are absolutely agreed on the meaning of such signs as + or - or √; but the meaning of the word "truth" or "good" is not a matter of universal agreement.² But Berkeley believed that this was not a fatal or ultimate defect in words. It was only in the last half-century before he wrote that mathematicians had attained uniformity in the use of signs, and he hoped that it would soon be possible to reach similar agreement as to the meaning of words. To this end it would be necessary to make a universal dictionary, whose definitions would be sufficiently authoritative to command universal assent. If, then, the meaning of words were settled, propositions in ethics could be demonstrated as readily as propositions in mathematics. It is universally agreed among mathematicians that such propositions as

$$2+2=4 \text{ or } \log(1+x)=x-\frac{1}{2}x^2+\frac{1}{3}x^3-\frac{1}{4}x^4+\dots$$

¹ *Commonplace Book*, i. 47. ² *Ibid.* i. 69.

are true.¹ In these cases the meaning of all the terms used is a matter of universal agreement. And if there were similar agreement with regard to the meaning of words, then such ethical propositions as "Man is free" or "God ought to be worshipped" would be universally admitted to be true, for they would be absolutely demonstrable. The latter proposition, for instance, would be readily demonstrated, as Berkeley says, "when once we ascertain the signification of the words God, worship, ought."²

Berkeley's former example of a demonstrable proposition in ethics gives a good illustration of what he means by saying, as he frequently does, that ethics deals with the relation of *inclusion*. He mentions, as we have seen, that it is part of the task of demonstration in ethics, after we have constructed our universal dictionary, to see which words *include* which. And elsewhere in the *Commonplace Book* he points out that ethics is concerned with "Definition, or inclusion, or words";³ and that it deals with "signification, by including."⁴ What he means by this is that if we take such a proposition as "Man is free," it is possible to demonstrate it when we know that "free" is included in "man." Given definitions in our universal dictionary such that the definition of "free" is comprehended within the definition of "man," and the proposition "Man is free" is universally demonstrable.⁵

¹ This series was discovered independently by Mercator and Saint-Vincent in the seventeenth century. It was not used by Berkeley, but it serves well to illustrate his meaning.

² *Commonplace Book*, i. 41. Cf. i. 32. ³ *Ibid.* i. 55. ⁴ *Ibid.* i. 37.

⁵ The conception of such an analytic or deductive philosophy was finally destroyed by the criticism of Kant.

In this theory of the nature of "inclusion," Berkeley has been influenced by mathematical analogies. The expression $\log(1+x)$ includes the series $x - \frac{1}{2}x^2 + \frac{1}{3}x^3 - \frac{1}{4}x^4 + \dots$. The series is analysed out of it. So, Berkeley believes, by an application of analytical methods in ethics we shall be able to demonstrate relations of inclusion and exclusion between words; and all propositions in ethics will thus be analytical.

Berkeley's mathematical theory of ethics is entirely in harmony with his general philosophical position. According to his theory of knowledge, we reason on a particular, which stands for all other particulars of the same kind. As representing other particulars it becomes a sign and performs the functions of universality. But Berkeley insists that this particular is not an idea, and he objects to Locke's theory of ethics on the ground that the abstract ideas which he had posited do not exist either in mathematics or in ethics. It is impossible, Berkeley has shown, to frame an abstract idea of triangle. Equally impossible is an abstract idea of justice. In ethics we are never concerned with the abstract, but always with particular instances of just or unjust actions. What we do is to take this or that just act, ignore all irrelevant features, and make it stand for all other just acts. On these particular cases we may reason in precisely the same way as we do in mathematics. In mathematics we give names to these particulars, and these names or signs are universal. Similarly in ethics signs are used, these signs being words and not ideas.

The only obstacle which Berkeley mentions in the

way of such a system of ethics is the very great difficulty of reaching agreement in its definitions. The definitions which mathematics employs are not questioned, because the learner comes to them with no preconceived ideas or prejudices. He is willing to take them on trust. But in ethics it is otherwise. Men approach the subject with presuppositions of their own. They cling to these primitive convictions, and refuse to come to any agreement in the definition of terms.

One very real difficulty which Locke had raised is denied by Berkeley. Locke had pointed out that the complexity of moral ideas increases the difficulty of dealing with them on the mathematical method. But Berkeley sees nothing in this difficulty.¹ Yet if we extend the term "complexity" to include the relations and context of moral experience,² the difficulty becomes a very pertinent one. On Berkeley's theory if we take a particular triangle, it is possible to abstract what is irrelevant to its triangularity, and the particular may be taken to stand for or signify all other particulars of the same kind. And, as we have seen, Berkeley thinks the same thing may be done in ethics. But it is not thus possible to isolate a particular just act. If it be cut loose from its context, it may no longer be a just act. Its justice may consist precisely in the complex relations in which it stands to its environment. What in one context might be irrelevant to its justice in another might be that in which its justice consisted. But though Berkeley was not

¹ *Commonplace Book*, i. 51.

² This involves a departure from Locke's meaning of the term.

aware of this difficulty in the days of the *Common-place Book*, it is clear from *Alciphron* that he came to appreciate it later. This may well have been one of the reasons why he seems to have abandoned the project of writing a mathematical treatise on ethics.

And it may be suggested that another reason weighed with Berkeley. If ethics is a science demonstrable in the same way as mathematics, why has God allowed so much diversity of opinion with regard to its definitions and propositions? There is universal agreement that $2+2=4$, and that the sum of the angles of a triangle equals two right angles. This agreement Berkeley attributes to God. God brings it about, arbitrarily but not capriciously, that all men should agree that $2+2=4$. But there is no similar universal agreement that polygamy is wrong. Now why did not God secure that all men should agree on moral matters? Locke, indeed, had suggested that God has laid down in the Gospels "So perfect a body of ethics that Reason may be excused from the enquiry."¹ But Berkeley saw that the ethical ideas of the Gospels were accepted by only a portion, and as he seems to have feared, by a diminishing portion, of mankind. If God had intended ethics to be as demonstrable a science as mathematics, he would have arranged that the definitions and axioms of ethics should be recognised by all men to be eternal and immutable. But as God has not done this, it cannot be his will that there should be a demonstrable science of ethics.

In Berkeley's works subsequent to the *Principles* no mention is made of a possible mathematical

¹ Letter to Molyneux, March 30, 1696.

science of ethics. In itself this does not prove that he had entirely abandoned all hope of developing the theory. No argument is weaker or more rash than the *argumentum a silentio*. In this particular case, there is some probability that Berkeley kept a place in his mind for an Algebra of Conduct until he finally decided not to attempt to re-write Part II. of the *Principles*, in which, as we have seen, his ethical theory was to have been expounded.

It may, indeed, seem strange that, even in the *Discourse on Passive Obedience*, which was published in 1712, when he certainly still cherished the project of founding a mathematical system of ethics, not a word is said to show that he had ever conceived such a possibility.¹ But when the circumstances in which *Passive Obedience* was written and re-written are taken into account, the omission does not seem so remarkable. It was composed first in the form of three sermons which he delivered in the chapel of Trinity College. False reports of these sermons, Berkeley tells us, were scattered broadcast, with the result that his loyalty to the House of Hanover came under suspicion. At that time "Passive Obedience" was a dangerous topic: only two years before, Sacheverell's sermons on Non-resistance at St. Paul's had given rise to an important trial and occasioned a violent controversy. Berkeley thought it wise, with a view to dispelling these suspicions about his loyalty, to publish the sermons "under the form of one entire discourse." The volume had a large circulation, but it did not succeed in removing the cloud under which its author rested; and for

¹ But cf. § 53.

several years the suspicion of disaffection stood in the way of his advancement in the Church.

Under these circumstances, the last thing we should expect to find in *Passive Obedience* is such novel, technical and controversial matter as an Algebra of Conduct. Even if Berkeley were convinced at the time that a scientific system of ethics must be mathematical, he had enough sense of the fitness of things not to obtrude it in a sermon. Further, on re-writing the sermons for publication, he would be little likely to wish to introduce it. *Passive Obedience*, as published, was intended to be in part an apologetic, and, above all, to be readily intelligible and entirely free from ambiguity. And he definitely tells us, in the *Commonplace Book*, that in order that an ethical demonstration "may go down with" people, it must avoid the "dry, strigose, rigid way" of mathematics.¹ Now, he certainly intended the *Discourse* to "go down with" people. And, in his view, that was a perfectly adequate reason for keeping clear of mathematical discussion in it.

There is also some reason why suggestions towards a mathematical system of ethics, even though Berkeley still believed in it, should not appear in his later works. For these works, and especially *Alciphron*, in which his more mature ethical views are most completely stated, are almost wholly controversial. It is, indeed, characteristic of Berkeley always to have opponents in view; and if he is not criticising somebody, he is thinking of the criticisms that others will bring against him. He never writes

¹i. 69.

as if a demon is sitting on his pen, for he is always preoccupied with what people will think of his work. When his early writings appeared, he was at almost ridiculous pains to discover what judgments were passed on them by the scholars and wits of the day. And in general he takes every care in his books to put himself at the point of view of possible objectors, and to state and answer their possible criticisms. In *Alciphron*, however, he is not primarily developing a theory of his own ; he is himself playing the part of the critic, and to have said anything there about a mathematical theory of ethics might have seemed irrelevant. He was criticising other people's ethical views, not developing one of his own.

From the absence of reference, in his middle and later works, to a possible mathematical system of ethics, it would thus be rash to infer that he had altogether abandoned that theory. But we have no means of knowing in detail how the theory would have been developed ; and it would be futile to speculate. The views which he does state in *Passive Obedience* and *Alciphron* take us into an entirely different field of ethical interest.

In the former work, to which we now turn our attention, Berkeley is concerned, in the first place, with the problem of moral obligation. There he makes "some enquiry into the nature, origin, and obligation of moral duties in general, and the criterions whereby they are to be known."¹

The possibility of morality, Berkeley believes, depends on the existence of certain fundamental moral rules which are closely connected with the

¹ iv. 104.

three postulates of the moral life—God, freedom, and immortality. These three principles occupy much the same place in Berkeley's system as in Kant's. But Berkeley's reason for regarding them as fundamental is very different from Kant's. For Berkeley they are ultimate because they are natural. These three great principles form the groundwork of all Berkeley's ethical structure. All the moral rules based on them, Berkeley finds, display three main characteristics.

(1) Berkeley holds that natural principles are also rational. In saying that moral rules are natural principles or laws of nature, we interpret nature in the highest sense. Nature in this sense is a perfectly natural rational system. The best moral principles and at the same time the most natural are not those which are most primitive and rudimentary, but those which may be rationally deduced by the maturest thought. These natural-rational principles are "agreeable to, and growing from, the most excellent and peculiar part of human nature."¹ They are laws of nature, but they are also eternal rules of reason, because they naturally and necessarily result from the nature of things, and may be demonstrated by the infallible deductions of reason.

(2) Natural-rational principles of morality are also divine. This follows from the whole course of Berkeley's philosophy, and is also explicitly stated by him. For Berkeley nature consists of divine symbols, and its general laws are simply the arbitrary but not capricious volitions of God. "Nature," says Berkeley, "is nothing else but a series of free

¹ *Alciphron*, ii. 61. Cf. *Passive Obedience*, iv. 108.

actions, produced by the best and wisest Agent.”¹ But though these actions are free, they are neither casual nor contingent. The laws of nature, including moral rules, are all necessary. God sustains them invariably and immutably. God is the “Author of Nature,” and he does not permit Nature to deviate from the path which he has willed.²

(3) It follows that natural laws constitute a system. Berkeley insists strongly on this characteristic of nature. “The Law of Nature is a system of such rules or precepts as that, if they be all of them, at all times, in all places, and by all men observed, they will necessarily promote the well-being of mankind.”³ The systematic and organic nature of reality is everywhere evident. Even at such a low level of organic life as vegetable existence organisation and system are present. “The several parts of it are so connected and fitted to each other as to protect and nourish the whole, make the individual grow, and propagate the kind.” Take

¹ *Passive Obedience*, iv. 110.

² The question of miracles gave Berkeley some trouble. He does not disbelieve the miracles recorded in Scripture, but holds that while these miracles did involve violation, or at least suspension, of the laws of nature, they were decreed by God, not in a capricious spirit, or to forward the interest of any particular person, but solely to advance God's own world-plan. Berkeley does not mention, though he can hardly have failed to notice, that this explanation involves the admission that the laws of nature are inadequate to attain the ends of their Author. Berkeley also attempts to defend miracles on the more hopeful ground that our knowledge of the laws of nature is so slight that apparent violations of them may really be quite consistent with them *sub specie aeternitatis*. Cf. *Passive Obedience*, iv. 110; *Principles*, § 63; *Alciphron*, ii. 310-311; *Sermon before the S.P.G.*, iv. 400-402.

³ *Passive Obedience*, iv. 111.

nature anywhere and everywhere, and it will manifest the same organic life. In animal existence, all the parts contribute to the good of the whole, and the whole to that of each of the parts. The well-being of the whole system and of every member of it is advanced by every part. And this participation of each and all in acting for the benefit of all and each extends even to “inanimate unorganised elements.”

Now moral rules are natural laws, and all the characteristics of natural laws belong to moral rules. Hence the same order and regularity which we perceive in the natural world exist also in the moral realm. The moral and natural worlds are partly, though not entirely, coincident. The moral realm is necessarily natural, but the natural world is not necessarily moral. Vegetable existence possesses all the attributes of the natural, but we cannot predicate morality of it. On the other hand, all the marks of the natural belong to the facts of morality. At all levels, the moral world, as we find it existing among self-conscious beings, is a realm of ends, in which man, living in accordance with nature, considers himself not as an isolated and independent individual, but “as a part of a whole, to the common good of which he ought to conspire.”¹

Berkeley is convinced that rational moral rules are absolutely essential for morality. He criticises the theory according to which it is sufficient that a man should on each particular occasion do what seems to him most likely under the circumstances to conduce to the general good. This view, says Berkeley, is untenable for two main reasons. (a) It is im-

¹ *Alciphron*, ii. 67.

possible to compute the consequences of each particular action ; and even if it were possible, it would take too much time to be of practical use in the guidance of life. But it is possible and comparatively easy to say whether a given action contravenes a universal law or not. (b) Further, on this view, we should have no universal standard, and consequently a *system* of ethics would be impossible. Each man would act in accordance with his own private opinion of what at a particular juncture would most conduce to the public good ; and as no man need divulge what his opinion is, no man's action could be judged either good or bad by other men. Thus moral appraisement and moral judgment—the essence of ethics—would be impossible, and all distinction between good and evil would be lost. On every count Berkeley concludes that it is essential for morality that there should be eternal and immutable moral rules.

These moral rules may be either positive or negative. Positive rules are not so absolute and necessary as negative ones. A negative precept is obligatory always and everywhere. It admits of no exception. It has no respect either for persons or for circumstances. But positive precepts are different. It is impossible always and everywhere to observe all positive precepts, partly because they are so numerous, and partly because the actions they prescribe may be inconsistent with one another. But it is possible to observe all negative precepts, even though this should involve total abstinence from action.¹

¹ *Passive Obedience*, iv. 118, 134.

Berkeley introduces another distinction, which bears a closer relation to his philosophy as a whole.¹ The term "law of nature" may be understood in either of two senses. In one sense it is a moral law, in the other it is not. If it means "any general rule which we observe to obtain in the works of nature, independent of the wills of men," it implies no duty and is no moral law. But it may also signify "a rule or precept for the direction of the voluntary actions of reasonable agents." In this sense duty is involved, and the rule is a true moral law. Thus the distinction between moral and non-moral natural laws depends on whether they imply human duty or not ; and this always involves a reference to the will. Natural laws are moral only if they imply *voluntary* human actions.

The essential connection of morality with the will is strongly emphasised in the *Commonplace Book*. The morality of an action, Berkeley says, depends chiefly on the volition. Only those actions admit of moral valuation which are our own ; and only those actions are our own which are consequences of our volition. Thus we ought not to blame or praise a man for his congenital abilities or capacities, for these are not due to his volition.² A man is responsible only for voluntary actions. In performing such actions man is free. Berkeley simply takes it for granted that the will is free. To say that man wills is tantamount to saying that he is free. An unfree will is a contradiction in terms.

¹ *Ibid.* iv. 122-123.

² *Commonplace Book*, i. 39. Cf. *Siris*, iii. 246.

"Folly to inquire what determines the will."¹ The will is self-determining, and no external force can act upon it so as to limit or determine it. No idea can affect it, because all ideas are passive and inert; and no passion can move it, because it is the nature of the self to be superior to the passions. The will is simply another name for the self in the conative side of its activity.

Berkeley distinguishes moral freedom from natural freedom. Both the natural world and the moral world are free. Mechanical necessity is absent from both worlds. The sharp distinction which we find in Kant between the necessity of the natural world and the freedom of the moral realm has no counterpart in Berkeley. For Berkeley mechanical necessity is non-existent, because nature, as we have seen, consists of the free actions of God. Both the natural and the moral worlds are free. But because both are free, it does not follow that both are free in the same way. The distinction between them depends on the quarter in which responsibility rests. God is responsible for the natural world: for this we have no responsibility, because our responsibility ends with those actions which are in our power. On the other hand, we are responsible for actions in the moral world. Finite beings are accountable for their own actions; and with regard to them God has no responsibility. But while God is not responsible for the actions of finite selves, these are consistent with his will and hence truly natural, so long as they are *right*. Thus it may be said that the distinction between right and wrong actions is that

¹ *Commonplace Book*, i. 34.

what is right is both natural and moral, while what is wrong is not natural, though it is moral in a wide sense, as involving the responsibility of a finite self.

Berkeley holds that the criterion of good and evil, which can be comprehended only by free and rational beings, is tendency to promote or thwart happiness. It is a natural principle that we consider things in the light of our happiness, for self-love is extensively the most universal, and intensively the most profound, principle in human nature. Good, then, is what augments our happiness, and evil that which impairs it. The *summum bonum* consists in happiness, and duty lies in the endeavour to attain the good and avoid the evil, with a view to happiness.

The content of happiness is defined by self-love. When our acquaintance with nature is shallow, self-love, being in an embryonic state, regards sensible pleasure as the invariable characteristic of good, as pain is of evil. But as self-love develops and we come to know nature better, it becomes evident that this formulation of the criterion is doubly erroneous. In the first place, experience teaches that present sensible good is often followed by greater evil, and that present evil often brings forth greater good. Thus, if we have regard only to present sensible good and evil, and seek to avoid the one and secure the other, we may fail in the main aim which self-love sets before us—the attainment of personal happiness. And even if happiness consisted simply in sensible good, this would be attained, not by yielding to the solicitations of present pleasure but by undergoing present pain. In the second place, as our acquaintance with nature grows, we discover that there are

other goods than those that affect the senses, and that these goods are higher than sensible goods.¹ Thus a developed self-love, while still regarding personal happiness as the *summum bonum*, requires a strict scrutiny of present pleasure. For such pleasure may in two ways actually impair our own happiness. It may be positively evil, *i.e.* pregnant with evil consequences. It may be negatively evil, *i.e.* not so high a good as might have been attained under the circumstances.

Our knowledge of nature, carried a step further, shows us that the *summum bonum* cannot be mere temporal happiness. The *summum bonum* cannot be confined within the conditions of time. It consists in eternal happiness. Now eternal happiness can be guaranteed only by God. Hence self-love lays down the rule that we act always in accordance with the will of God. The existence of God is required by morality as it is by knowledge. Berkeley's general metaphysical position implies that, apart from the existence of God to guarantee the regularity and invariability of our sense-impressions, no knowledge would be possible. In ethics, though concrete moral actions are not existentially dependent on God, the natural-rational principles on which they are judged are the volitions of God. But Berkeley does not, as Kant does, attempt to base a practical proof of God's existence on his indispensability for morals.

This process of the gradual definition of the content of happiness may be illustrated by the stages through which Berkeley himself went in

¹ *Alciphron*, ii. 89-97.

developing his ethical theory. His view of the relative value of pleasures of sense and pleasures of reason underwent a marked change. In the *Commonplace Book* (1705-8), he does not recognise pleasures of reason at all. "Sensual pleasure," he says, "is the *summum bonum*."¹ In the essays in the *Guardian* (1713), pleasures of sense and pleasures of reason are placed on the same level, so long as they are natural. But in *Alciphron* (1732), pleasures of sense are degraded. The view that these constitute the *summum bonum* is strongly attacked. Sense-pleasure is natural only to brutes. Reason is the highest and most characteristic element in human nature, and only rational pleasures are in a strict sense natural to man.

It is strange that at this stage in his philosophical development Berkeley did not notice the inconsistency of making reason supreme in morality, and sense in knowledge. All our knowledge is sense-knowledge, but all our moral actions are rational.² But even when *Alciphron* was written Berkeley was modifying his view of the importance of sense-knowledge, and in *Siris* (1744), sense-knowledge is placed far below rational knowledge. Consistently with this, the pleasures of sense are deprecated, precisely as they were in *Alciphron*. "The objects of sense . . . are too often counted the chief good."² Both in knowledge and morality the same trend is evident throughout Berkeley's philosophy—the ascent from sense to reason. The only difference between Berkeley's epistemological and ethical development is that his perception of the inadequacy of sense took

¹ *Commonplace Book*, i. 47. ² *Siris*, iii. 282.

place earlier in the case of morality than in that of knowledge.

Berkeley believes, as we have seen, that each man's happiness is for him the *summum bonum*. This end self-love directs him to seek. But at first sight it would seem that a universe, in which the only moral precept is obedience to the principle of self-love, would certainly not display the harmony and system of Berkeley's organic moral realm. For Berkeley, as for all other British moralists, the problem of the relation of egoism and altruism arises. But in Berkeley's ethical, as in his metaphysical philosophy, God solves many puzzles. This problem like many others would remain unresolved apart from God. Self-love remains for Berkeley the supreme principle in morality ; but it does not therefore follow that the altruism-egoism problem is insoluble. It is only at a low stage of moral development that self-love bids a man seek his own happiness alone. Rational self-love endeavours to consider the world *sub specie aeternitatis*. It finds that true self-interest demands that actions be directed not to temporal advantage, but to eternal welfare ; and thus self-love advocates only that line of action that is conceived to be in accordance with the will of God. No purely selfish action can be at one with the will of God. The Hobbist position of undiluted egoism is stated by Berkeley, but only to be refuted by the same arguments as Butler used. Man, as Aristotle said, is a *πολιτικὸν ζῷον* : "there is implanted in mankind a natural tendency or disposition to a social life."¹ All that is necessary to keep man

¹ *Passive Obedience*, iv. 117.

right in this social life is careful attention to the dictates of self-love. Self-love will not command what is inconsistent with the truest altruism.

This conception of self-love supplies the key to Berkeley's attitude to pleasure. While he agrees that the *summum bonum* is happiness, and that happiness consists largely in pleasure, he draws a sharp and apparently arbitrary distinction between "natural" and "fantastical" pleasures. Under the head of natural pleasures he includes "those which are suited both to the rational and to the sensual parts of our nature." Fantastical pleasures, on the other hand, are largely illusory, and, as they are not naturally adapted to provide satisfaction for our desires, they merely succeed in perpetuating a craving for more and ever more fantastical pleasures.

At this point Berkeley introduces God to confirm the distinction. God has so arranged the world, he believes, that natural pleasures are both easier of attainment and more certain to afford satisfaction than those that are fantastical. Natural pleasures, again, are not purely egoistic : God has decreed that these, which form the proper object of desire to a rational self-love, should always contribute to the general social welfare. And while man is free to choose either natural or fantastical pleasures according to his own volition, it is the will of God that he should seek, not merely the private enjoyment of pleasure, but also the promotion of the happiness of mankind as a whole.

It is in connection with the nature of pleasure in life that Berkeley's relation to contemporary writers on ethical problems is most clearly seen. In

Alciphron he criticises both Mandeville and Shaftesbury with much asperity and some acumen.

From Mandeville he differs at the outset with regard to the conception of self-love. Self-love for Mandeville is always egoistic ; it directs each man to seek his own pleasure only, irrespective of what its social reference may be. A man's business is with himself alone ; if he satisfies his own desires according to his own wishes, he should not give a thought to the mischief to other individuals or the State as a whole which may result from his selfish satisfaction. And the burden of Berkeley's criticism of Mandeville is that he simply repeats, in an even more pernicious form, the undiluted egoism of Hobbes.

To Berkeley's criticism Mandeville replied in his *Letter to Dion*.¹ In that tract, which is vigorously written, he refuses to acknowledge the view attributed to him by Berkeley, and says that the most charitable construction to put upon the travesty is that Berkeley had not really read *The Fable of the Bees*.

Now, it is quite clear that Berkeley understands Mandeville's fundamental dictum, "Private Vices Public Benefits" otherwise than Mandeville himself. As Hutcheson pointed out in his *Remarks upon the Fable of the Bees*, Mandeville's dictum may mean any one of these five distinct propositions : "Private vices are themselves public benefits," "private vices naturally tend, as the direct and necessary means, to produce public happiness," "private vices, by dexterous management of governors, may be made

¹ "Dion" is the character in *Alciphron* whom Berkeley makes the exponent of his own views.

to tend to public happiness," "private vices naturally and necessarily flow from public happiness," "private vices will probably flow from public prosperity, through the present corruption of man." The version of Mandeville which Berkeley puts into the mouth of Lysicles adopts the second of these meanings. Lysicles' argument is precisely that "private vices naturally tend, as the direct and necessary means, to produce public happiness."¹ Lysicles is even made to regard vice as a positive good, "a fine thing with an ugly name." Now Mandeville himself both in the *Fable of the Bees* and in the *Letter to Dion* insists that while private vices are inseparable from the material greatness of a society, it does not follow that vice is a good. "Vice," he says, "is always bad, whatever benefits we may receive from it."² And he definitely gives his *imprimatur* to the third of Hutcheson's suggested meanings. He means that "private vices, by the dexterous management of a skilful politician, might be turned into public benefits."³ Hence a good deal of Berkeley's criticism, directed against a different interpretation of Mandeville, is simply an *ignoratio elenchi*.

Even less satisfactory is the criticism of Shaftesbury which Berkeley offers in the third dialogue of *Alciphron*. The theory which the character Alciphron is made to defend, and which is attributed to Shaftesbury, is a maimed and decrepit version of what Shaftesbury really meant. In dealing with Shaftesbury, his mind, usually so acute and incisive, seems to have lost its cutting edge. He is able

¹ *Alciphron*, ii. 71-74. ² *Letter to Dion*, p. 34. ³ *Ibid.* p. 36.

neither to appreciate the value of Shaftesbury's views, nor to indicate clearly the grounds of his objection to them. No one, in fact, who has written about Shaftesbury has written to less purpose than Berkeley. He seems to see that Shaftesbury's analogy between physical beauty and moral goodness is not altogether adequate, but he does not seem to see why it is not. He objects that the moral sense is not capable of supplying a satisfactory criterion of right and wrong, but he does not seem to see why it cannot. He attacks Shaftesbury's doctrine of the disinterestedness of virtue on grounds that are entirely unworthy of a moral philosopher. All in all, his attitude to Shaftesbury, as we see it in *Alciphron*, is that of the man whose prejudices make him incapable of appreciating whatever truth may exist in the opinions of those with whom he does not see eye to eye.

Berkeley's attitude to both Mandeville and Shaftesbury is, as we have seen, distinctly hostile. With the ethical theory of Butler, on the other hand, his own view is in close sympathy. But it is significant of Berkeley's methods that the author of the doctrine to which his own bears at many points such a striking resemblance is not once mentioned in his works.

The similarities in the views of the two contemporary philosopher-bishops, taken in their cumulative effect, are so notable as to suggest the possibility that one was directly influenced by the other. But such a suspicion is really gratuitous. It is, indeed, barely possible, so far as the dates of publication of their works are concerned, that each was in some measure indebted to the other. Butler's *Sermons* was first

published in 1726, while Berkeley's *Passive Obedience* appeared in 1712, and *Alciphron* in 1732. But there is no real internal evidence that *Passive Obedience* influenced the *Sermons* or the *Sermons*, *Alciphron*. The resemblance may be sufficiently accounted for by their philosophical environment. They shared a common antipathy to Hobbes, and they adopted a similar attitude towards the tendencies of ethical thought represented on the one hand by the so-called Cambridge Platonists, and on the other by such "men of the world" as Mandeville and Shaftesbury. To Hobbism they were both fundamentally opposed, though both were perhaps influenced by the Hobbist doctrine that moral rules are natural laws. From the Cambridge Platonists both learned something—the immutability of moral laws and the rational ground of moral obligation. To Mandeville and Shaftesbury they were both opposed, though Butler was more willing than Berkeley to admit that there was something in what Shaftesbury had to say.

The result of all this is that, though Butler's moral philosophy is more systematically developed than Berkeley's, almost every element which has contributed to make Butler's work the greatest product of British ethical thought is present in Berkeley's scattered remarks. For Berkeley, as for Butler, reason is ultimately the basis of moral obligation, and happiness constitutes the *summum bonum*. In the view of both, moral principles are also laws of nature, and action in accordance with nature leads to the attainment of the moral ideal, for nature is a divinely organised system of ends. Both emphasise, in language strangely similar, the moral importance

of the disposition to social life existing in mankind ; and both are animated by the same principles of practical social idealism. Only in their view of the relation of the "principles of human nature" do they diverge. Or it would be truer to say that, while Butler's chief originality lies in his moral psychology, Berkeley has almost entirely omitted to make any psychological analysis of moral experience.

When we remember the originality of Berkeley's metaphysics, it may seem strange that, when all is said, his writings on ethics make so small a contribution to that branch of philosophy. But we should bear in mind that we have only fragments of Berkeley's thought on ethical problems. What should we think of his metaphysics, if the *Principles* and the *Three Dialogues* had been lost ? It might be argued that if Berkeley's specifically ethical treatise had been preserved, it might have paved the way for as great an advance in ethics as his systematic works do in metaphysics. One thing at least may be said with certainty. It is clear from the scattered remarks which we do have that Berkeley's work on ethics would have shown the same two characteristics as assured his success in his metaphysical ventures. As Earl Balfour has pointed out, two qualities are essential to the philosopher who is going to carry forward his study. He must have philosophical aptitude, and be mentally capable of speculation on the ultimate problems of life and knowledge. But in addition he must possess the peculiar gift of being able to locate the exact point at which the next philosophical forward movement can best be made. It was for want of this special

acumen that Clarke and Malebranche, in spite of their speculative ability, were left in a philosophical backwater. But Berkeley had the faculty of noticing just where the next advance could best be made. Hence his position in the main current of English philosophy.

It is evident that he did not at first perceive the exact point in ethics at which the next forward step could be taken. The reason for this is that the main line of ethical thought did not pass through Locke. Berkeley's intuition was not at fault in believing that the main line of metaphysical progress lay through Locke ; and he was able to do his own good work by putting his finger unerringly on the spot from which that advance might best originate. His initial mistake in ethics lay in thinking that progress might be made in that department of philosophy also by observing and correcting Locke's suggestions towards a mathematical system of ethics. But he soon perceived that the path marked out by Locke led into a cul-de-sac ; and he therefore abandoned the attempt to construct a mathematical system of ethics. In his later ethical work, as we have seen, he does make suggestions which place him right in the centre of the line of ethical advance in England. That line led through Hume to Utilitarianism. Berkeley believes, as we have seen, that the *summum bonum* is not private pleasure, but the happiness and general good of all. And he draws a sharp distinction between the different kinds of pleasure. He did not appreciate the problems which Utilitarianism has to face ; and it is an anachronism to style him,

as Campbell Fraser does, a Theological Utilitarian.¹ But he was moving in that direction, and if he had given to the question the thought necessary to produce a systematic work, he might well have been the first Utilitarian.

¹ *Life and Letters of Berkeley*, p. 49.

CHAPTER VII

PHILOSOPHY OF RELIGION

BERKELEY himself did not recognise the philosophy of religion as a separate branch of philosophy ; and it might therefore seem that we have no right to devote a chapter to it. But it should be remembered that, in the whole course of his works, he makes practically no attempt to introduce distinctions between the different branches of philosophy, or to classify them in any way : he does not even distinguish metaphysics from theory of knowledge or from psychology, for in his eyes all speculation of an interpretative and critical kind is alike philosophy, irrespective of the particular subject-matter with which it happens to deal. His disinclination to distinguish the various branches of philosophy was probably due, not to any congenital affection for blurred outlines or indistinct margins (for his mind was naturally clear, sincere, and anti-obscurantist), but partly to his antipathy to the artificial and superfluous distinctions introduced by the Schoolmen for whom he had little love, and partly to the fact that the New Philosophy had hardly yet begun to admit that our knowledge of the human understanding might conceivably make greater progress,

if it were recognised that within the one body of philosophy are comprised different disciplines, having each a characteristic aim and subject-matter. But for the purposes of exposition and criticism, it is convenient to deal with Berkeley's views under such rubrics as Psychology, Metaphysics, and Ethics ; and if that is permissible, there would seem to be no reason why the chapter in which we gather together what he has to say on the problems of religion should not be called "The Philosophy of Religion."

Yet it cannot be denied that there is an argument against the use of the term Philosophy of Religion which does not hold in the other cases. Although Berkeley himself was not concerned to distinguish such branches of philosophy as psychology and metaphysics from one another, no anachronism is involved in ascribing them to him, for they had been distinguished before his time. But in strictness it is an anachronism to speak of Berkeley's philosophy of religion. For the discipline which we commonly call by that name, dealing as it does with the critical examination and interpretation of actual religious experience, differs from what has been traditionally known as theology ; and it did not really originate till the time of Kant. Both the term and the discipline were suggested by Kant, and under his influence the study has assumed from the beginning the subjective tinge with which he coloured all philosophy. Kant enumerated the problems of philosophy in a way that was at least apparently subjective ; and, regarding religion as the subject-matter of the third and final department of pure philosophy, he enunciated its problem not as What

is God ? (that may be the problem of theology), but What may I hope ? The questions of which the religious philosopher treats are not abstract and independent of the religious subject : they depend on the human consciousness with all its interests and needs, all its hopes and fears, all its emotions and aspirations.

While, then, it is impossible to deny that, as the philosophy of religion was first developed by German post-Kantian Idealism, it is strictly an anachronism to attribute the discipline to Berkeley, yet in his treatment of the problems of religion there is so notable an approximation to the standpoint and attitude characteristic of the philosophy of religion that the chronological inaccuracy seems pardonable. Many of the features of the philosophy of religion are anticipated by Berkeley. Thus he insists that the study of religion must not merely describe the contents of sacred writings, and recapitulate the dogmas of theology, but should also exercise its interpretative and critical functions on the actual facts of religious experience ; and in the strongest terms he emphasises that its conclusions must be judged at the bar of human reason, and that its solutions must satisfy human needs and aspirations.

The philosophical attitude which Berkeley adopted towards the problems of religion was determined very largely by the deist controversy that was raging when he was beginning to think. It is not very easy to decide whether or not this circumstance was favourable to the development of Berkeley's philosophy of religion.

That his views would have been stated very much

more clearly and systematically if he had not been involved in so much discussion and dispute admits of no question whatever. His earlier works, *e.g.* the *Principles* and *Three Dialogues*, in which there is hardly any controversy except with imaginary disputants, are clearer and more systematic than *Alciphron*, in which his views on religion are chiefly contained. But while it is universally admitted that for style and literary craftsmanship *Alciphron* is the finest thing he ever wrote, it is rarely read to-day, partly because the controversy to which it is a contribution now excites hardly any interest, and partly because it is rather difficult to sift his views from those which he criticises, and so to obtain from the book, in spite of its elegance and clarity of diction, any clear-cut conception of what, in the last resort, Berkeley's own theory of religion really is. The possible extent of Berkeley's achievements may be gauged by what Butler, a man of less philosophical acumen and literary skill, succeeded in accomplishing. Butler, writing at the same time as Berkeley, avoided entering into details in connection with the controversy, and produced, in the *Analogy of Religion*, a work of permanent value. Almost certainly, if Berkeley had been able to keep his hands free of the deist controversy, he would have produced more ultimately valuable work in the theory of religion than he did.

For Berkeley, like Butler, possessed in a marked degree the qualities essential to the writer on the philosophy of religion.

(i) In the first place, they are both convinced of the fundamental importance of religion. Very

different views are possible as to the meaning and value of religious experience. But Berkeley believes that there can be no diversity of opinion on the question of the importance of the part played by religion in human history. All may admit that religion has in the past filled a notable rôle in human experience. But it may be held that the day of religion is past, and that if religion were now utterly to disappear no real value-for-life would be lost to the world. As against any such supposition as this, it was the intense conviction of Berkeley that the extinction of religion is either an unthinkable impossibility, or, if it were possible, it would be a universal disaster from which humanity would never recover.

(ii) But the mere appreciation of the importance of the rôle which religion has played in human history is not enough to constitute the philosopher of religion. He must also himself enjoy and value religious experience. This is clearly a different matter. A man may be impressed with the importance of religious experience, and yet be incapable of it himself, just as he may agree that aesthetic experience is of great value, though he himself is incapable of appreciating it. It is essential that the philosopher of religion should not only be convinced of the general importance of religion, but should also himself know by immediate and personal experience what religion is. Now the whole career of Berkeley, especially after his twenty-fifth year, shows that more perhaps than any of his contemporaries he was a man in whose life religion exerted a commanding influence. Renan's well-known remark that the best

historian of religion is the man who has once believed in it, but no longer does so, has little application to the *philosophy* of religion.

(iii) But, even for the philosopher of religion, there is a grain of truth in Renan's saying. For the philosopher of religion must constantly be on his guard against *parti pris*. He must, indeed, be impressed with the general importance of religion, and must know by personal experience what religion is; but he must not be so interested in some one type of religion as to be incapable of dealing impartially with religion as a whole. To a certain degree, Berkeley possessed this quality also. He showed himself able to treat with impartiality members of other communions than his own. He certainly believed that they erred, the Roman Catholics through excess of superstition, the dissenters through excess of enthusiasm; but he was inclined to look upon these errors, and especially the latter, with indulgence.¹ Berkeley was certainly not a bigoted Churchman. But he *was* a bigoted Christian, and he had not the slightest sympathy with the free-thinkers. This dulled his mind in the

¹ One or two examples of this may be mentioned. In Rhode Island he did his best to placate the dissenters, and in preaching at Newport he "treated only those general points agreed by all Christians" (*Letter to Percival*, Aug. 30, 1729). He also advised the missionaries of the Society for the Propagation of the Gospel to try to conciliate the nonconformists in Rhode Island (*Works*, iv. 370). And he gave his house in Rhode Island to the "College at New Haven," now Yale University, for the provision of scholarships to be awarded irrespective of denominational considerations. Berkeley's attitude to Roman Catholicism is rather more complex. But it is certainly not bigoted. See *A Word to the Wise*, iv. 541, and the *Letter to Sir John James*, iv. 519.

deist controversy, and rendered him incapable of appreciating some of the points which they tried to make. In respect of this quality of impartiality Berkeley certainly suffers by comparison with the calm, impartial, and judicial Butler.

(iv) But one obvious quality of the philosopher of religion still remains to be mentioned. He must be able to philosophise, and he must believe in the possibility of a philosophical interpretation and formulation of religion. With regard to the former point, it would be impertinent to say anything of Berkeley, naturally the keenest mind in the history of English philosophy. And the latter half of the qualification is also possessed by Berkeley; he believed that a rational formulation of religious truth is perfectly attainable.

On all these grounds, then, it is clear that Berkeley was well qualified to write on the philosophy of religion; and in the circumstances in which he lived it is not strange that his philosophical activity was not only influenced by the deist controversy, but was almost dominated by it. For in his religious views, as in all else, Berkeley was very much the child of his time. It would, indeed, be difficult to name a thinker who was more influenced by contemporary life and thought than he was. And it is natural that the religious tendencies of the day should have exercised an especially profound influence upon him. For religion, more than any other fruit of the spirit, draws its substance from the soil in which it grows.

In order to understand the progress of the deist controversy, and the place which Berkeley took in it,

it is necessary to uncover its roots in the latitudinarianism of the Church of England.

In the late seventeenth and early eighteenth centuries the moderation and toleration of the Church of England were specially marked, and it came to be officially held that the standard of the truth of religion is not the authority of the Church nor the authority of Scripture, but natural reason, which is common to all men.

This view was emphasised and popularised by two prominent Anglican divines, Chillingworth¹ and Tillotson, both of whom asserted in the most uncompromising terms the prerogative of reason to investigate and determine the truth of religious experience. "Nothing," says the latter, "ought to be received as a revelation from God, which plainly contradicts the principles of natural religion." "And nothing," he adds, "ought to be received as a divine doctrine or revelation, without good proof that it is so."² Tillotson claimed the right of examining religious experience *rationally*, whether it purported to be guaranteed by Scripture or immediate experience. Towards the end of the seventeenth century the English theologians were all bent on constructing a rational or philosophical system of religion. The Cambridge Platonists rationalised and allegorised with a view to the interpretation of the true universal meaning of religious beliefs as actually experienced.

¹ Berkeley had a high opinion of Chillingworth. (Cf. *Letter to Johnson*, March 24, 1730.)

² Tillotson's *Sermons*, i. 225, quoted in Leslie Stephen's *English Thought in the Eighteenth Century*, i. 78. This paragraph and the next owe much to this book and to Lechler's *Geschichte des Englischen Deismus*.

And other theologians tried to formulate theoretical proofs of such religious fundamentals as the existence of God and the immortality of the soul.

Such was the religious position in the English Church when Berkeley was born. But before he reached manhood the rationalising tendencies of the Church were being developed and turned against Christianity. The consequent growth of scepticism in one way advanced, and in another retarded, the progress of a genuine philosophy of religion. It certainly gave rise to a keener and more extensive examination of the basis of religion than would otherwise have been the case. On the other hand, a philosophy of religion requires for its development an atmosphere free of controversy and *parti pris*; and the heated disputes which raged for the next fifty years, though they stimulated interest in religion, undoubtedly had an unfortunate effect on its philosophical interpretation.

The germs of scepticism had thus been sown within the Church long before the deist controversy actually broke out; and it did not escape the leading deists that their views had nearly all been suggested by professedly orthodox Churchmen. Collins, for example, declared that nobody doubted the existence of God till the Boyle lecturers undertook to demonstrate it, and he referred to Tillotson as the man "whom all English free-thinkers own as their head."

The men who actually started the controversy and the immediate questions which they raised were alike mean and small. Although the greatest problems were involved, hardly any question of the first importance was explicitly raised at first. The

disputants on both sides engaged in tremendous battles over matters which to us now seem of very little consequence. But more was at stake than appeared on the surface, or even than the combatants themselves were aware of. The free-thinkers themselves made no contribution at all to the philosophy of religion, but their activity forced the defenders of Christianity to bestir themselves to formulate a systematic rationale of religion.

The deists may, indeed, be regarded as the Sophists of the philosophy of religion. As the Sophists deserve credit for compelling by their doubts and denials the formulation of a more adequate philosophy of knowledge and conduct, the deists by their scepticism forced the orthodox to examine and re-interpret the facts of religion which were being so openly and so vigorously questioned. Thus the existence of the deist controversy and the emergence of a philosophy of religion in England in the eighteenth century were complementary and closely-related facts, and it is interesting to note that as the free-thinking conflagration died down the philosophical study of religion languished.

We must now proceed to indicate in some detail Berkeley's attitude to the deist controversy, whose genesis we have just sketched.

Berkeley early adopted towards all free-thinkers a position of uncompromising hostility. This critical attitude was never abandoned, and it is revealed in some form or other in almost everything he wrote.

In the *Commonplace Book* (1705-8) the free-thinkers come in for much criticism; and the *New*

Theory of Vision (1709), while not ostensibly directed against scepticism, was certainly regarded by its author as a useful weapon with which to attack it.¹ The *Principles* (1710) has as one of its chief objects an enquiry into "the grounds of scepticism, atheism, and irreligion"; and the *Three Dialogues* (1713) brings the practical religious aim into even greater prominence, stating on the title-page that its design is "plainly to demonstrate the reality and perfection of human knowledge, the incorporeal nature of the soul, and the immediate providence of a deity, in opposition to sceptics and atheists." In the same year he entered the lists in a more popular way with the essays which he contributed to the *Guardian*. The first of these is a review of Collins's *Discourse of Free-thinking*, which had been published early that year; and nearly all the others are written in criticism of deism and in defence of Christianity. After 1713 a period of twenty years of almost complete literary barrenness elapsed,² during which he was occupied in travel and in endeavours to stamp out practical atheism, but when in 1732 he again appeared in print it was once more to attack his old

¹ The application to religion is made explicit in the *Theory of Vision Vindicated* (1733). With regard to the *New Theory of Vision* Berkeley writes to Percival as follows: (March 1, 1710.) "In a little time I hope to make what is there laid down appear subservient to the ends of morality and religion in a treatise I have now in the press [*The Principles*], the design of which is, . . . by showing the emptiness and falseness of several parts of the speculative sciences, to reduce men to the study of religion and things useful."

² Berkeley's only publications in the twenty years from 1713 till 1732 were the small tracts *De Motu* (1721), *An Essay towards preventing the Ruin of Great Britain* (1721), and *A Proposal for the better supplying of Churches in our Foreign Plantations* (1725).

enemies. The book that was published in that year was *Alciphron*, his most careful and most pretentious work, which is described not inadequately on the title-page as "an apology for the Christian Religion against those who are called free-thinkers." It was directed chiefly against Collins, Mandeville, and Shaftesbury, and gave rise to a good deal of controversy. Mandeville produced his *Letter to Dion*, in which he complained of misrepresentation, Browne defended his theory of analogical knowledge in *Divine Analogy*, and one or two other criticisms appeared. All were ignored by Berkeley except an anonymous letter printed in the *Daily Post-boy* of September 9, 1732, which he thought important enough to answer in the *Theory of Vision Vindicated* (1733). And he continued to attack various aspects of free-thinking in the *Analyst* ("A Discourse Addressed to an Infidel Mathematician," 1734), *A Defence of Free-thinking in Mathematics* (1735), and *A Discourse Addressed to Magistrates and Men in Authority* (1736). Last of all, in *Siris* (1744) his work reached its culmination in the attempt to give, for the final confusion of sceptics, a perfectly adequate philosophical interpretation of religion and things in general. In every one of these works Berkeley had in view the refutation of the deists.

It has not been noticed, so far as I am aware, that the most remarkable thing about Berkeley's participation in the deist controversy is just the fact that he did take part in it *against* the deists. Berkeley early developed, as we have seen, a precocious heterodoxy in philosophy, and it is not without interest that this heterodoxy did not, ostensibly at least,

extend to religion. And it seems worth while, at the cost of a slight digression, to make clear Berkeley's motives in adopting his critical attitude to the deists.

His mind was naturally sceptical, and he always refused to rest content with anything less than experimental evidence. One or two amusing anecdotes of his student-days illustrate his aversion to taking anything on trust.¹ And in philosophy his regular line of argument is, Do not believe anything which you cannot prove for yourself. Refuse to believe in abstract ideas simply because authoritative philosophers proclaim their existence. Try yourself if you can frame an abstract idea, and if you cannot, do not believe in the doctrine. Now, if this attitude be applied to religion, it becomes that of the typical free-thinker. Berkeley tells us himself that he "was distrustful at eight years old; and consequently by nature disposed for these new doctrines."² He is referring here to philosophy; but if a man is by nature disposed for new doctrines in philosophy, it seems strange that he should not be similarly disposed for new doctrines in religion. Berkeley was a free-thinker in philosophy and mathematics, but he did not extend his free-thinking to religion. Why this distinction?

At one time he was inclined to draw an absolute distinction between philosophy and religion, between reason and revelation. Revealed religion is the preserve of implicit faith, and therefore reason with its brood of doubts has no right to trespass upon it. "When I say," he writes, "I will reject all propositions wherein I know not fully and adequately and

¹ *Life and Letters*, p. 22.

² *Commonplace Book*, i. 79.

clearly, so far as knowable, the thing meant thereby, this is not to be extended to propositions in the Scripture. I speak of matters of Reason and Philosophy—not Revelation. In this I think an humble, implicit faith becomes us (when we cannot comprehend or understand the proposition), such as a popish peasant gives to propositions he hears at mass in Latin."¹ This view Berkeley later abandoned : the important point about the passage is its emphasis, which shows, of course, that he *did* have doubts in religion, and that he came to the deliberate conclusion that it was necessary to suppress them. What motives can he have had for stifling the enquiries of his spirit in religion ?

(1) Shrewd enough in practical matters, Berkeley saw that it would not be to his interest to incur any suspicion of "infidelity." Preferment, both academic and ecclesiastical, depended on his orthodoxy ; and therefore orthodox he was. There is some evidence that such motives may have induced him to suppress his doubts in religion.

Thus he says vigorously in the *Commonplace Book* "I'd never blame a man for acting upon interest. He's a fool that acts on any other principles."² He knew well that his interest demanded perfect conformity to the Church, and accordingly he makes the following memorandum : "N.B. To use utmost caution not to give the least handle of offence to the Church or Churchmen."³ This certainly seems to show that he had reached the deliberate decision not to annoy the Church, in order to avoid the possibility of prejudice to his own chance of advancement. He

¹ *Commonplace Book*, i. 42.

² i. 24.

³ i. 41.

always took pains to put his views in such a way that they would "go down with" people ;¹ and when he was developing his philosophical principles he was scrupulously careful not to bring them into conflict, at any point, with the dogmas of the Church.² It is perfectly clear that, at least previous to the Bermuda project, he had an eye to what he himself calls "the main chance." He was very eager for ecclesiastical preferment, and lost no chance

¹ *Commonplace Book*, i. 69. Cf. i. 92.

² When he is writing the *Commonplace Book* the *arrière pensée* of religion is constantly at the back of his mind. He is careful to see whether his New Principle is consistent with the dogmas of the Church, e.g. the Creation and the Trinity (pp. 62, 86, 10, 42). He sees that there is difficulty in applying his view to the Trinity ; but contents himself with the observation that the danger to the Trinity is as great on the materialist doctrine, concluding that, though on some points of revealed theology demonstrative knowledge is possible, "to pretend to demonstrate or reason anything about the Trinity is absurd. Here an implicit faith becomes us" (pp. 28, 84). (It is interesting to remember that the denial of the Trinity was at this time a punishable offence. Only six or seven years before Berkeley made these entries—in 1699, to be exact—a statute of King William decreed that the punishment for denying the Trinity should be (for the first offence) incapacity to hold any office of trust, and (for the second) three years' imprisonment with other penalties. This Act relaxed the law that was previously in force. In 1696 a man was hanged for denying the Trinity.) But Berkeley is anxious not merely to show that his views are consistent with the dogmas of the Church, but also to prove that they confirm these doctrines. If the New Principle be adopted, he says, the immortality of the soul may be easily understood and defended (p. 59), and it is possible to give a brief and direct demonstration of the existence of God (p. 60). He argues that many of the theories of Locke are dangerous to religion, in particular the doctrine of the eternity and infinity of space, which would either make God extended, or set up, in addition to God, a second eternal infinite being (pp. 39, 81, 82). And, in general, he regards Locke and his followers as the patrons of scepticism, and virtually sets himself up as a "simple Christian" in opposition to these "higher critics."

of improving his prospects by soliciting the favour of those in power.¹

¹ As the view of Berkeley's motives and character which has just been suggested is very different from the traditional one, it is necessary to confirm it. The evidence on which we draw is almost all contained in the collection of letters between Berkeley and Percival (*Berkeley and Percival*, edited by B. Rand).

Berkeley's prospects of ecclesiastical preferment were at first seriously affected by the suspicion that he was a Jacobite. This was based on the sermons which he preached in the College Chapel, and though he attempted to dissipate it by publishing a *réchauffé* of them in the *Discourse on Passive Obedience*, he did not succeed in dispelling the cloud under which he rested. In 1716 he was presented to the Prince and Princess of Wales by Molyneux, and the Prince recommended him to the living of St. Paul's, Dublin. But the authorities still believed that he was disaffected, and, though his friends did all they could for him, he and they were unable to secure his advancement. Before the end of the year Berkeley left for Italy.

In 1721 he was again in Dublin, as eager as before for ecclesiastical preferment. He wrote to Percival, afterwards first Earl of Egmont, informing him that the Deanery of Dromore was vacant, and begging him to use his influence on his behalf. "I had no sooner set foot on shore," he says in the letter of October 12, 1721, "but I heard that the Deanery of Dromore was become vacant.... I instantly applied to His Grace, and put him in mind of his promises." He also mentions that he had written in the matter to the Earl of Burlington, and had sought the favour of the Duchess of Grafton and of Fairfax, who, he thought, were both well-disposed to him. The letter of January 9, 1722, reveals something of his remarkable persistence in seeking his own advancement.

As the result of this, the Deanery was granted to him; but the right of appointment was claimed by Lambert, Bishop of Dromore, who nominated Lesley, his clerk. In the lawsuit which ensued Berkeley spared no pains in his efforts to win the case, employing eight lawyers and using all the influence he could bring to bear. In order to help him to meet the expenses of the suit, he asked Percival to try to get for him the Chantership of Christ Church, which happened to be vacant at the time. Percival did his best, but the Duke of Grafton would not hear of giving it to Berkeley, even for the duration of the suit. Berkeley's next letters are all concerned with the lawsuit, which progressed very slowly, and made him very impatient of lawyers and the world in general. He was annoyed, too, he says, that it detained him

Now, he was aware that it was an essential condition of his success in the Church that he should either keep clear of the deist controversy altogether, or, preferably, adopt a hostile attitude towards free-thinking. Now, there is one thing that Berkeley never did. He never "hedged" in any matter, either speculative or practical. Thus it was

in Ireland, and prevented his prosecuting his interest in England. He began to despair of success, and devised an ingenious scheme for securing the deanery without fighting the case to the bitter end. According to this plan, Lesley was to be made a bishop. If that were done, the Bishop of Dromore would probably not press his right to appoint to the deanery, and Berkeley's entry would accordingly be unopposed. But as the scheme did not meet with the approval of those in power Berkeley was forced to abandon the hope it offered of attaining his end. In October, however, he wrote to Percival to suggest a new solution of the difficulty.

The Dean of Derry was seriously ill, and Berkeley thought that, if the proper means were used, he might obtain that deanery on the death of the dean. Percival thought the suggestion a good one, and expressed his best wishes; but as he was not willing to interview the Lord Lieutenant on Berkeley's behalf, this project also had to be laid aside. Meanwhile the deanery of Down had become vacant, and again Berkeley was an applicant. Again he was doomed to disappointment. But at last, on May 5, 1724, he was able to tell Percival that he had received the deanery of Derry. The lawsuit with regard to the deanery of Dromore was still dragging on, and Berkeley was thoroughly glad to be rid of it, though so long as his interest demanded, he carried it on with remarkable persistence.

So far, Berkeley seems to have been a decidedly calculating man, with a fixed determination to do the best he could for himself. But suddenly, in 1723, he intimated to Percival his dramatic decision to go as a missionary to the New World. And thenceforth his motto was *non sibi sed toti mundo*. (For his motives in this project, see *Berkeley and Percival*, pp. 203-236; his "Essay towards preventing the Ruin of Great Britain," *Works*, iv. 319; his "Proposal for the better supplying of Churches in our Foreign Plantations," *Works*, iv. 341; and my review of *Berkeley and Percival* in *Mind*, N.S. no. 94, p. 267.)

necessary for him, under the circumstances, to be uncompromisingly opposed to free-thinking.

(2) The second reason for Berkeley's active intervention in opposition to the free-thinkers is more problematical. Possibly he criticised deism because it was popular and because it was easy to criticise. The man who wished to attract attention (and it is indubitable that *inter alia* this was Berkeley's intention) could not do better than take part in the controversies to which free-thinking had given rise. "The dissection of a deist was a recognised title to obtaining preferment."¹ Now, Berkeley saw very clearly the weak points in the arguments of such men as Toland and Collins. He perceived that it would be relatively easy to establish a position from which they might be criticised. It needed a great deal less acuteness than he possessed to recognise that they are essentially dull and ineffective. None of the English deists have the wit and incisiveness of Voltaire, and they do not make nearly as much of their case as really penetrating critics would have done. To criticise the deists was thus a relatively easy task, and one, moreover, from which a good deal of credit might be expected.²

¹ Leslie Stephen, *English Thought in the Eighteenth Century*, i. 86.

² Berkeley's general philosophical attitude is so similar to that of the deists that it is difficult to avoid believing (though the supposition does not admit of serious argument) that he may have been seriously tempted during his student-days to throw in his lot with them. Had he done so, he would certainly have been much more formidable than any of them. To the deists his acute dialectic and subtle satire would have been invaluable weapons. And he would have enjoyed himself hugely if he had been in a position to bait Clarke and Whiston, Browne and King, and the other prominent theologians of the day, not on philosophical

That such considerations as these may have contributed to the formation of Berkeley's attitude to deism will, no doubt, appear startling to those who have been accustomed to picture an angelic Berkeley so transparently disinterested as to win the support of State and Church for his impracticable and Utopian missionary scheme, and so wonderfully good that Pope ascribed to him every virtue under heaven.¹ No one, of course, would dream of denying the real strain of deep piety in Berkeley's character, and there is no doubt that that supplies *one* motive for his opposition to deism. But it has seemed necessary to insist that it is not the only one.

In any case, whether for the reasons we have mentioned or not, Berkeley decided to range himself against the free-thinkers ; and nearly all his books, as we have seen, have them in view.

In the mass of Berkeley's controversial writings on deism there is naturally a good deal of repetition ; and his contribution to the philosophy of religion

points where, since few took any interest in obscure metaphysics, these men might safely refuse to answer him, but on the fundamentals of Christianity, where they would be bound, for the sake of the Church, to reply to his attacks.

And, if one may carry the merest speculation a step further, it seems not improbable that, if Toland had never lived, Berkeley might have been the leader of free-thinking in the eighteenth century. For Toland's personality may have had something to do with Berkeley's aversion from the cause of which he was the early leader. The polished scholar in Berkeley had an intuitive antipathy to such a literary swashbuckler as Toland, and possibly this natural incompatibility may have had a good deal to do with his opposition to the deists. But Berkeley's *ingenium* was naturally sceptical, and he can hardly have avoided seeing how easy it would have been to apply his theory to criticise not free-thinking but Christianity.

¹ *Epilogue to the Satires*, ii. 70.

may best be estimated, if we consider first his attitude to the immediate questions raised by the deists, and then proceed to state his general views on the universal problems of religion.

The main contention of the deists was simply an extension of the argument of Chillingworth, Tillotson, and Locke. Locke and the theologians endeavoured to found a "reasonable Christianity" by welding into a system those beliefs in which both reason and Christianity agree. The deists went further, and maintained that, as Christianity is only a particular religion, it is necessary, in order to establish an ultimately credible natural religion, to find those beliefs in which reason and religion-in-general agree. The deists believed that in this process of constructing a true natural religion many of the doctrines of Christianity, including all its "mysteries," would have to be abandoned.

Berkeley, Butler, and other Christian apologists met this contention by attempting to prove that every religious belief conformable to reason is a Christian belief. Berkeley accepted the deists' premiss that religion is wider than Christianity, but he pointed out that religion includes both reasonable beliefs and fantastic superstitions. Fantastic superstitions, he argued, are to be found, not in Christianity, but in non-Christian religions; and religion so far forth as it is rational religion may be identified with Christianity. Thus the system of beliefs in which reason and religion agree is Christianity.

From the standpoint of the philosophy of religion, the importance of the advance made by Berkeley beyond the general position of the seventeenth and

early eighteenth centuries lay in his recognition that he was giving a philosophical treatment to religion in general, and not merely to Christianity. The seventeenth century had contented itself with, at the most, a philosophy of the Christian religion; but Berkeley and Butler were forced by the arguments of the deists to take account of "natural religion," and, though they maintained that this "natural religion" adds no truth to Christianity, their real significance consists in advancing beyond a mere interpretation of Christianity, and attempting a genuine philosophy of religion.

Of all the deists the most important were Toland, Tindal, Woolston and Collins. Toland, following Locke, maintains that reason is the only foundation of certainty. But he goes beyond Locke in holding that no beliefs are justifiable unless there are rational grounds for them;¹ and he restricts the validity of the principle of probability to practical matters alone. "I banish all hypotheses from my philosophy,"² he says, adapting a famous phrase of Newton's; and he declares that probability provides no adequate basis for religious beliefs.

Now, when this theory is applied to Christianity, one of two conclusions must result. It follows either that Christianity, basing itself on probabilities, is false; or that, because it is true, it must be wholly rational and contain no mysteries. The former conclusion is almost certainly the one that Toland really believed, but the latter is what he professed. The ostensible burden of his argument is that Christianity contains nothing either contrary to reason or

¹ *Christianity not Mysterious*, p. 22.

² *Ibid.* p. 15.

above reason. The so-called Christian mysteries involve no ultimate inexplicabilities ; and, if they seem mysterious to us, it is only because their meaning has not yet been fully revealed, for there is nothing ultimately foreign to reason in them. Hence there is no such thing as faith, or, if we retain the word faith, we should remember that "it is entirely built upon ratiocination."¹

The arguments of Toland were taken up and developed by Tindal, who reduced Christianity to a body of ethical maxims that had been formulated even better by Confucius. Like Toland, he professed to be anxious to purge Christianity of its mysteries ; and in *Christianity as Old as the Creation* he vigorously attacked the miracles of Christianity, finding both in sacred history and theological dogma abundant examples of the two *bêtes noires* of the age—"enthusiasm" and "superstition."

Beside these arguments we may set, though on a much lower level, Woolston's attempts, in his *Six Discourses*,² to allegorise the miracles of the Bible. When he wrote these tracts, he was almost certainly mad. Though he regarded himself as "at bottom as sound as a rock,"³ he tried to prove that practically the whole Bible is "a fraud and a cheat." But in spite of his mental alienation, he retained enough of his study of Origen to be able to apply, in an extreme form, that thinker's method of allegorical interpretation to the miracles of the New Testament.

¹ *Christianity not Mysterious*, p. 127.

² These tracts had an immense circulation. Voltaire estimated the total sale at 30,000.

³ *Six Discourses*, p. 68.

This series of arguments against the miracles and mysteries of Christianity was answered by Berkeley in the second and sixth dialogues in *Alciphron*. With an abundance of learning he defends the historical accuracy of Scripture, and the rationality of the articles of the Christian faith ; and examines carefully the difficulties, emphasised by Tindal and Woolston, in the form and matter of the Christian revelation. So far as this part of the controversy is concerned, the progress of Biblical Criticism has cut away the ground from under the feet of the participants, and it would hardly have even historical interest to recount in detail the arguments advanced on both sides.

But Berkeley's general philosophical conclusion is still of interest and even of importance. He insists that, if we admit that the essence of Christianity is the same as "natural religion," we must not define "natural religion" in so narrow a way as to render it unsatisfying to the religious consciousness. The religious consciousness, with its complex needs and aspirations, will not rest content with a religion which is purged of the miraculous and the mysterious. The element of mystery and miracle cannot be banished from Christianity without doing violence to its spirit. And if it could be expunged from religion in general, one of life's spiritual values would be destroyed. The ultimate determination of what is or is not valuable in religion must be made by the religious consciousness. The religious consciousness decides what is and what is not true religion, just as the knowing consciousness decides what is and what is not true knowledge. And, as the

esse of the external world is *percipi*, the *esse* of religion may be said to be *credi*. Belief or faith is the characteristic attitude of religion, and Berkeley insists, against the deists, (a) that faith is necessary to religion, and (b) that probable arguments form an adequate basis for faith. "Knowledge, I grant, in a strict sense, cannot be had without evidence or demonstration: but probable arguments are a sufficient ground of faith. Whoever supposed that scientific proofs were necessary to make a Christian? Faith alone is required; and, provided that, in the main and upon the whole, men are persuaded, this saving faith may consist with some degrees of obscurity, scruple, and error."¹ Thus on the whole we may say that, while Berkeley's detailed arguments are chiefly directed against Tindal and Woolston, his general philosophical position is intended to be, in the main, a criticism of Toland.

Now, Toland had also been criticised by Browne, who was Provost of Trinity College when Berkeley was a student, and was subsequently made a bishop; and it is interesting to note that Berkeley, in developing his criticism of Toland, came into conflict with the arguments which Browne had used in his attempt to pulverise the notorious free-thinker.

At the outset there is a certain similarity between the theory of Berkeley and that of his brother-bishop. Both maintain that probable arguments are sufficient to justify faith; both admit that, in strictness, *knowledge* of the mysteries of Christianity is impossible; but both believe that we may have an "analogical" acquaintance with these mysteries.

¹ *Alciphron*, ii. 311.

But though, so far, the two bishops seem to be in perfect agreement, a radical difference between them soon emerges.

Browne's reason for maintaining the impossibility of real knowledge of God lies in a positivist distrust of the knowing-consciousness. Of God's real nature and attributes, he says, "we can have no ideas or conceptions at all, either in whole or in part, distinct or confused, clear or obscure, determinate or indeterminate."¹ "The true nature and manner of all the divine operations of goodness is utterly incomprehensible."² Any knowledge we have of God must be analogical, and if God has knowledge of us, that also is analogical. Our analogical knowledge is below the level of ordinary knowledge, but God's analogical knowledge is above that level.

With any such sceptical distrust of ordinary knowledge Berkeley has no sympathy, for he believes firmly in the power and adequacy of the knowing-consciousness, and cherishes a sturdy conviction that knowledge does not fail.

This general difference of attitude affects the meaning which Berkeley and Browne attach to the term "analogical." Browne developed his theory out of hints in Archbishop King's *Sermon on Predestination*,³ in which it was shown that our knowledge of God's attributes is merely "metaphorical." For the term "metaphorical" Browne substituted

¹ *Things Divine and Supernatural*, p. 237.

² *Op. cit.* p. 333. Cf. *Alciphron*, ii. 179.

³ Berkeley wrote a few words of criticism of this sermon in a letter to Percival, March 1, 1710. And it is interesting to note that Collins criticised it from the deist standpoint, in a tract published in 1710, on precisely the same grounds.

"analogical," and maintained that we have an analogical knowledge of God's attributes. In other words, while the wisdom and goodness we attribute to God are not the same as the corresponding qualities which we ascribe to man, they are very similar.

This view Berkeley criticised on the ground that it involves a fallacy of four terms. He insists that, if we ascribe any attributes at all to God, we must mean by them essentially the same as we do when we apply them to man. "Otherwise," he says, "it is evident that every syllogism brought to prove those attributes, or, what is the same thing, to prove the being of a God, will be found to consist of four terms, and consequently can conclude nothing."¹ For himself, he maintains that our knowledge of God, so far as it goes, is real; or, if we say that it is analogical, all we mean by that is that such knowledge is not perfect or complete.

Now, it might conceivably be suggested that the only difference, after all, between these views is that, whereas Browne holds that the goodness we attribute to God is like the goodness we attribute to man, Berkeley maintains that the goodness we attribute to God is *very* like the goodness we attribute to man. In other words, the difference between the two theories is merely one of degree. But this criticism cannot be upheld. There is more than this between Berkeley and Browne. The former emphasises the difference by drawing a sharp distinction between analogical as meaning (i) metaphorical, and (ii) proportional. He denies that we have

¹ *Alciphron*, ii. 188-189.

analogical knowledge of God, or that God's knowledge is analogical, in the former sense. But he admits that, if we restrict "analogical" to its proper mathematical sense, such qualities as wisdom and knowledge, which *per se* involve no defect, may be analogically predicated of God. Analogy, as used in mathematics, *i.e.* in its strict and proper sense, signifies, he says, "a similitude of proportions."¹ Thus, the goodness of God is analogical in the sense that it preserves "a proportion to the infinite nature of God."²

It must be admitted, I think, that in this case Berkeley's application of mathematical conceptions is not very successful. It does not help us to know God's goodness if we know that it is proportionate to his nature, for we do not know his nature. From such a proportion it is possible under certain conditions to determine the values of an unknown term, but only if one of the terms is already known. If we merely start with two unknowns, *e.g.* God's nature and God's goodness, then the supposition that there is a proportion between them does not enable us to determine either.

So far, in our account of Berkeley's participation in the deist controversy, we have not dealt with the most important of all the deists. This is Anthony Collins, the friend and disciple of Locke, who touched the controversy at more points than any other, and had, besides, the additional distinction, from our point of view, of attracting Berkeley's most persistent attention.

He attacked Collins first in the essays against free-

¹ *Ibid.* ii. 186.

² *Ibid.* ii. 187.

thinking in the *Guardian*, the first of which purports to be a criticism of Collins' *Discourse of Free-thinking*. It is really an *argumentum ad hominem* of the most shameless kind :¹ in general, in the *Guardian*, Berkeley simply rules the contentions of the deists out of court on the ground that, in spite of all their pretensions to breadth of mind and largeness of outlook, they are really the narrowest of men, veritable " minute philosophers " ; and he compares the free-thinker to a fly on the pillar of a great cathedral, so engrossed with the slight inequalities on the surface of the stone as to be incapable of appreciating the beauty of the building as a whole.²

Shortly after the appearance of these critical essays in the *Guardian*, Collins published his *Enquiry concerning Human Liberty*, which gave rise to a heated controversy with Clarke, and is criticised by Berkeley in *Alciphron*. Berkeley's motive in maintaining, in opposition to Collins, that man is free, is, of course, a religious one. To defend the reality and value of religion he finds it necessary to maintain human freedom. Now, Collins had pointed out clearly the sense in which he denies freedom to man. He admits that in Locke's sense of the term man is free, i.e. " man has a power to do as he wills or pleases " ; but he declares that such freedom is neither adequate nor ultimately real, for it means nothing but " freedom or liberty from outward impediments of action " ; and he holds that, if we are free, our freedom must be " liberty from necessity." ³ Now, this freedom, Collins holds, is an impossibility. Man is " a necessary agent," or in

¹ *Works*, iv. 139.

² *Works*, iv. 170.

³ *Enquiry*, p. 20.

other words, " all his actions are so determined by the causes preceding each action that not one past action could possibly not have come to pass, or been otherwise than it hath been ; nor one future action can possibly not come to pass, or be otherwise than it will be."¹ He advances six arguments why freedom is impossible, (i) the argument from experience, (ii) the argument from " the impossibility of liberty," (iii) the argument from " the imperfection of liberty," (iv) the argument from " divine pre-science," (v) the argument from reward and punishment, and (vi) the argument from morality.

Berkeley considers most of these arguments, but he points out that his dissatisfaction with the conclusions of Collins and the other free-thinkers arises chiefly from disagreement with their assumptions. The problem has seemed to be insoluble, Berkeley says, only because it is unreal. Its difficulties have been artificially introduced by minute philosophers. And he maintains that, in reality, in order to be assured of freedom, we need only appeal to " the Common Sense of mankind,"² or " ask any plain unlettered man."³ And this, says he, is the only proof we need. Yet, in the second edition, Berkeley does introduce a formal proof. It is this. Whatever does not imply a contradiction is possible. Whatever is possible may be supposed to be real. As freedom implies no contradiction it is possible, and may

¹ *Op. cit.* pp. 16-17.

² *Alciphron*, ii. 352.

³ Although Berkeley makes use of this argument from common sense he is aware of its weakness. And he objects to its employment by the minute philosophers, on the ground that when they appeal to common sense " they mean only the sense of their own party " (ii. 269).

therefore be supposed to be real. Man's freedom may be regarded as real. Now any plausibility that this " proof " possesses springs from its similarity to the ontological argument from conception to reality, an argument which Berkeley rejects. Berkeley has inferred the reality of freedom from the fact that it can be supposed. Now if the ontological argument is valid, its validity depends on the fact that it is directed to prove the existence of a God, who is assumed to be the whole of reality. If God be conceived in any other way than this, the ontological argument cannot be defended. In the case of anything partial, such as freedom, the ontological proof proves nothing. You no more prove that freedom is real from the fact that it is supposed than you prove that there is a shilling in my pocket by supposing that it is there.

For Berkeley freedom has a great religious significance. It is the religious consciousness that demands freedom for itself. It demands practical freedom in the relations between man and man, it demands freedom for man from the necessity of nature, and it demands freedom for man in his dealings with God. Berkeley regards the denial of freedom as one of the most pernicious errors of the deists.

Berkeley's outlook is not bounded by the somewhat narrow limits of the deist controversy.¹ He

¹ Berkeley's attacks on the deists represent them all alike as atheists and infidels. But, of course, the deists differed much among themselves. Samuel Clarke distinguished four kinds, (i) those who "pretend to believe the existence of an eternal, infinite, independent, intelligent Being; and . . . teach also that the Supreme Being made the world: though at the same time . . . they fancy that God does not at all concern himself in the government of the world, nor has any regard to, or care of, what is done

sees, less clearly indeed than Butler, but more clearly than anybody else, that the whole controversy is based on assumptions that are highly doubtful. He charges the deists with almost every logical fallacy;¹ and most of his criticisms are just. But Berkeley had enough practical wisdom to know that the mere refutation of deist arguments was not enough either to secure the historicity of Christianity or to supply an adequate philosophy of religion. In the same spirit and on the same lines as Butler, he endeavoured to suggest the outlines of a philosophy of religion. Butler's *Analogy* continues to be read, while *Alciphron* and *Siris* are not, because, whereas Berkeley's suggestions are interspersed with much controversial matter, Butler brought together all his positive arguments into one systematic whole.

Berkeley's own views on religion are stated in so many different places, and are so intricately involved with the theories which he is engaged in criticising, that it is far from easy to get the gist of what he has to say on the chief problems of religion. But an attempt must now be made to state his most important positive tenets. The great problems which he raises are the existence of God, the immortality of the soul, and the meaning of faith.

On the first question he vacillates. But on one point he remains consistent throughout: he confi-

therin"; (ii) those who in addition admit divine providence in nature; (iii) those who also allow moral perfection to God; and (iv) those who go further and acknowledge that man has duties towards God, and must look forward to a future state of reward or punishment . . . "but only so far as 'tis discoverable by the light of nature." (*The Being and Attributes of God*, 159 ff.)

¹ Cf. *Alciphron*, ii. 357.

dently and persistently rejects the ontological proof. "Absurd," he says, "to argue the existence of God from his idea."¹ It is absurd because we can have no idea of God, *i.e.* we cannot perceive God by sense. Thus, it is not strictly the argument that is absurd, but the presupposition on which it rests. If we could have an idea of God, this would certainly guarantee his existence; nay, it would be his existence. Of God it would be as true as it is of any other idea that *esse* is *percipi*. But we have, in fact, no idea of God, and from what is non-existent nothing can be inferred.

But with the traditional cosmological and teleological arguments for the existence of God he shows some sympathy. He points out that it is "repugnant" that finite things should subsist of themselves. In themselves they are contingent, and need some infinite and necessary Ground. He also makes use of the teleological proof, arguing to the existence of a perfect God, from the "constant regularity, order, and concatenation of natural things, the surprising magnificence, beauty, and perfection of the larger, and the exquisite contrivance of the smaller parts of the creation, together with the exact harmony and correspondence of the whole."²

Berkeley restates these proofs in terms of his own metaphysics. Ideas depend for their existence on being perceived by human beings, *i.e.* spirits. But these are finite spirits, and finite spirits can cause only images. Finite spirits cannot cause ideas, and they cannot cause other spirits. Human beings cannot be the cause of other human beings. Hence

¹ *Commonplace Book*, i. 48. Cf. i. 51. ² *Principles*, § 146.

the existence of an ultimate cause is required to account for (a) the existence of ideas, and (b) the existence of spirits. This ultimate cause is God, the infinite Spirit.¹ To this general line of argument Berkeley gives two somewhat different forms of expression. In each case the existence of God is an inference from experience; but at one time he considers that the inference is made directly from the existence of ideas, and at another that it involves the middle term "spirits." In the latter case he argues that ideas presuppose finite spirits, and finite spirits presuppose Spirit.² In the former case, "sensible things do really exist; and, if they really exist, they are necessarily perceived by an infinite Mind; therefore there is an infinite Mind, or God."³ The same proof is expressed rather differently in *Alciphron*. Berkeley proves that as our certainty of the existence of the soul is based, not on immediate perception of it, but on the perception of certain motions and actions which suggest it, so the existence of God is suggested or signified by the harmony of action and reaction in the world as a whole.⁴ Thus Berkeley brings his proof of the existence of God into connection with his psychological doctrine of perception.⁵ In the *Theory of Vision or Visual Language* he makes the relation perfectly clear. The permanence of the world, and the self-identity of things and spirits depend on the fact that they are constantly being perceived by God. God's existence, then, may be inferred from the permanence and regularity of the world, of which we are assured by

¹ *Ibid.* § 146. ² *Ibid.* § 146, and *Three Dialogues*, i. 448.

³ *Three Dialogues*, i. 425. ⁴ *Alciphron*, ii. 160. ⁵ *Ibid.* ii. 174.

Common Sense. Berkeley may give different expressions to the proof of the existence of God, but he never wavers in his belief in the fact. "Nothing can be more evident to anyone that is capable of the least reflection than the existence of God."¹

Granted, then, that God exists, how can we know him, or what sort of knowledge can we have of him? In the *Commonplace Book* Berkeley said that we have no idea of God, *i.e.* God is neither perceptible nor imaginable. In the *Commonplace Book* perception and imagination are the only kinds of knowledge. But since in the *Commonplace Book* Berkeley had asserted his firm conviction that God exists,² it was necessary for him to discover some way of knowledge by which God might be known. In the *Commonplace Book* he had not discovered that way of knowledge, but in the second edition of the *Principles* he suggests that, though we can have no ideas of spirits, we can and do have notions of spirits. And this notional knowledge extends also to the Infinite Spirit. From first to last he insists that we cannot know God by sense. Yet he once says that we may have "an image or likeness of God, though," he adds, "though indeed extremely inadequate."³ On the same page he identifies our notional knowledge of God with reflection or intuition or reason, indicating by all these words the *difference* of such knowledge from sense-perception. Whatever precisely may be the character of notional knowledge, it is at least direct. Knowledge by notions is always distinguished from indirect and representative knowledge by signs. The only characteristic we can

¹ *Principles*, i. 342.

² i. 51.

³ *Three Dialogues*, i. 448.

with safety ascribe to notional knowledge is its directness.

Side by side with this theory of a direct notional knowledge of God Berkeley gives us, as we have seen, his doctrine of indirect analogical knowledge. He was content to leave these two views unreconciled; and all we can say is that this is yet another instance of the lack of finish which is so characteristic of all his work.

Berkeley's attitude towards the problem of the immortality of the soul is closely similar to that which he adopts towards the existence of God. He believes in the existence of God, and he believes in the immortality of the soul. He thinks that both beliefs can be defended on his metaphysical theory, but in addition he adduces other arguments in their favour. He holds that the soul is naturally immortal. The existence of the soul "consists in perceiving ideas and thinking."¹ It might be supposed that Berkeley would admit that sense-perception at least is impossible without a body. But he refuses to allow this. "It is even very possible," he says, "to apprehend how the soul may have ideas of colour without an eye, or of sounds without an ear."² Even if the sense organs were to be annihilated in death, the soul might still exist, and not only think, but perceive ideas. Thus, existence after death differs neither in kind nor in degree from existence in the flesh. In both cases existence essentially means perceiving ideas and thinking. The existence of the body makes no difference to the existence of the soul. Immortality is perfectly *natural*. So far as our

¹ *Principles*, § 139. ² Letter to Johnson, June 25, 1729.

actual experience goes, perception always takes place through sense organs, but there may be "other ways of perception,"¹ and in any case there is no proof that sense organs are essential to the perception of ideas. On this basis—the impossibility of disproof—Berkeley rests the assertion that the soul is necessarily and naturally immortal, *i.e.* is a necessarily and eternally percipient being.

But in addition to this proof, based on his own metaphysical doctrine, Berkeley uses traditional arguments to confirm belief in the immortality of the soul. Like Clarke, he maintains that the soul is "indivisible, incorporeal, unextended," and consequently, by a traditional argument, is indissoluble and incorruptible.² Like Butler, he insists on the separateness of the soul from the body, and argues that, since it is isolated and impervious, it is not affected by the dissolution of the body. He also mentions with approval a teleological argument (Man would not have been created with such infinite capacities and desires, did he not have eternity in which to realize and satisfy them), and an ethical argument (Inequality and injustice in this life point to a future existence in which they will be redressed), with both of which the belief in immortality may be buttressed.³ And he even finds some satisfaction in referring, for confirmation of "this comfortable truth," to the instinctive beliefs of Common Sense, the opinions of the Pythagoreans and the Greek mythologists, and supernatural revelation as vouchsafed to Christ and Mohammed.⁴

¹ *Essays in the "Guardian,"* iv. 146. ² *Principles,* § 141.

³ *Essays in the "Guardian,"* iv. 143-147. ⁴ *Ibid.* iv. 184.

But these arguments are only auxiliary. Berkeley's real proof is that which is based on his own metaphysical system. The soul is, in its very nature, immortal. There is no dualism between the present life and eternal life, for time and eternity are relative distinctions within a wider whole. The soul is essentially *existent*. Within its existence it includes the moments of past existence and future existence, and neither its past nor its future are bounded by what we call birth and death.¹

In spite of Berkeley's claim that the two great religious beliefs are capable of proof, he admits, nay asserts, that there is such a thing as religious faith, distinct at once from opinion and knowledge. It is unfortunate that Berkeley does not make clear the differentia of faith. Still, it is possible to gather from *Alciphron* the outlines of his view. It is plain, in the first place, that faith is not sense-knowledge. Nor is it notional knowledge. Now for Berkeley all knowledge is either sense-knowledge (which includes imagination) or notional knowledge. Thus faith, being neither sense-knowledge nor notional knowledge, is not strictly knowledge at all.

Faith differs from sense-knowledge in three respects. (1) Faith is only probable: "Knowledge, I grant, in a strict sense, cannot be had without evidence or demonstration: but probable arguments are a sufficient ground of faith."² Religious faith is a type of assent. The religious consciousness does not

¹ *The Revelation of Life and Immortality* (a sermon preached in Trinity College), simply takes for granted the immortality of the soul as a revealed truth.

² *Alciphron*, ii. 311.

demand scientifically rigorous proofs. It is satisfied with faith, which may "consist with some degree of obscurity, scruple, and error."¹ (2) Faith differs from sense-knowledge also inasmuch as it involves no ideas. The attitude of faith is possible, "although his understanding may not be furnished with those abstract, precise, distinct ideas."² Faith assures us of the reality of things of which we have no ideas. (3) Faith is active and practical. "Faith is not an indolent perception, but an operative persuasion of mind, which ever worketh some suitable action, disposition, or emotion in those who have it."³

Faith differs also from notional knowledge, but only in respect of the first and third points above-mentioned. Unlike faith, notional knowledge is both theoretical and demonstrable, though the kind of demonstration of which it admits is different from that of sense-knowledge. But notional knowledge is like faith in dispensing with ideas. Thus the ultimate *differentia* of faith is its practical nature and the fact that it is based on probable arguments.

Berkeley illustrates his conception of faith by examples. We have faith in such doctrines as Grace and Original Sin, (i) though they cannot be rigorously demonstrated, and (ii) though we can have no *idea* of them, because (iii) they are beliefs which have a "practically efficacious" influence on life. But faith is not an isolated phenomenon, confined to the realm of religion. Faith is involved also in the special sciences. We have no demonstrative knowledge by way of ideas of "force" or "number." Mechanics and arithmetic alike are based on faith :

¹ *Alciphron*, ii. 311.

² *Ibid.* ii. 335.

³ *Ibid.* ii. 337-8.

we give practical assent to the "efficacy" of the conceptions which they employ. Thus, we may say that the existence of "force" or "number," like that of the data of religion, is not *percipi* but *credi*. Their existence consists in being believed in, or practically assented to.

Now, it is, of course, evident that we may be mistaken in our beliefs. Those religious beliefs which Berkeley calls fantastic superstitions are held by some people, but that does not guarantee their truth. In view of this, can we still maintain that the *esse* of the facts of religion is *credi*?

To this query Berkeley would reply that the proposition *esse* is *credi* is in precisely the same position, with regard to its validity, as *esse* is *percipi*. When we say that the existence of a thing consists in being perceived, we do not forget that some things which do not really exist may be perceived or imaged in dreams or hallucinations. The mere fact that a thing is perceived in a dream or hallucination does not guarantee its real existence. Thus, in order to guard our proposition from misinterpretation, we should have to formulate certain conditions under which it is true. And, in general, we may say that *esse* is *percipi*, provided the particular perception agrees with the system of the rest of our perceptions and with what we take to be the systems of other people's perceptions. If it does not readily find a place within the system of experience, it should be looked upon with suspicion. It may, indeed, turn out in the long run that the single perception is true, and the rest of our perceptions are false; but, as a general principle, the presumption is in favour of the system

and against the particular exception. It is only under such conditions as these that we are entitled to say that the proposition *esse* is *percipi* is valid.

And the case of *esse* is *credi* is precisely similar. The mere fact that a belief is held by one man or by a group of men does not necessarily guarantee its religious truth. For the belief may be a "fantastic superstition." Such a belief is on exactly the same level as the perception of the man or group of men who are subject to an hallucination. Hence it follows that the proposition *esse* is *credi* is true only under certain conditions. And the conditions which it implies are very similar to those that determine the validity of the other proposition. A belief, we may say, is valid and valuable if it conforms to the system of beliefs held by the wisest and best men of the time. If a new belief suggests itself to some particular man, which contradicts not only the system of his beliefs but also the systems of his neighbours, it *may* turn out to be true, the previous systems being, in reality, false, but the presumption, under such circumstances, must always be *against* its truth. We conclude, then, that the essential attitude of religion is one of faith; and that, *under certain general conditions*, the fact that a religious belief actually is held guarantees its value and validity.

To sum up, we find that in religion as in theory of knowledge Berkeley, starting with isolated particulars, is forced in the end to assume the conception of system in order to justify these particular beliefs. While, in exceptional cases, a particular belief may be true against a system of beliefs, the general rule is that it is confirmed as a valid and valuable belief only

because it is not an isolated particular but is a member of a system. Thus, in the theory of religion, as in every other department of philosophy, Berkeley is driven by the inner logic of his thought to abandon his early particularism in favour of a conception of life based on organic system.

APPENDIX I

BERKELEY'S RELATION TO COLLIER

THE general resemblance of the Berkeleian theory to that stated by Arthur Collier in his *Clavis Universalis*, which was published in 1713, gives rise to some interesting and important historical questions which will be examined in this appendix. I shall first mention briefly what is known of Collier, and then consider whether his work was influenced in any way by Berkeley.

Clavis Universalis is not, in itself, any more remarkable than many other English philosophical tracts published about the beginning of the eighteenth century, which attracted little or no attention when they originally appeared and which have been persistently neglected by succeeding generations. Such rare treatises as Richard Burthogge's *Essay upon Reason and the Nature of Spirits*, 1694, John Sergeant's *Solid Philosophy*, 1696, and John Norris's *Essay towards the Theory of the Ideal or Intelligible World*, 1701-4, may be specially mentioned. In themselves these works are quite as interesting and important as Collier's book; but to the English student of philosophy they are very little known, and no effort seems to have been made to reprint them.

And it is safe to say that *Clavis Universalis* would have remained in as great obscurity as these and many others had it not been for the coincidence that it contains a theory strangely similar to that of Berkeley, whose *Principles* appeared three years before it. The modicum of attention that Collier has received has been due to this interesting coincidence, if coincidence it be.

For a hundred years after his death Collier remained, in Britain, at least, in almost complete oblivion.¹ He was forgotten in the parish of which he had been hereditary rector, and in an elaborate catalogue of the authors of Wiltshire, in which he was born and bred and lived and died, his name does not appear at all. But one day Thomas Reid chanced on a copy of *Clavis* in the Glasgow University Library, and gave a brief account of it in his *Essays on the Intellectual Powers of Man*.² He cannot have read the book very carefully, however, for he says that Collier's arguments are the same in essence as Berkeley's; and this is, in fact, far from being the case. Reid's notice brought *Clavis* to the attention of Dugald Stewart, who devoted a note to its author in his *Dissertation on the History of Metaphysical Science*,³ in which he praised the book with more enthusiasm than discrimination. "When compared with the writings of Berkeley himself," he says, "it yields to them less in force of argument than in composition and variety of illustration." Stewart refers

¹ He is referred to in *Grub Street Journal*, cvii., and in Corry's *Reflections on Liberty and Necessity*, 1761.

² *Essay*, ii. chap. 10.

³ Hamilton's edition, vol. i. p. 349.

also to its "logical closeness and precision"—qualities which, in reality, it decidedly lacks. These and other references roused, at about the same time, the interest of Dr. Parr, and of an Edinburgh literary society, and the result was the almost simultaneous publication of *Clavis* by the Edinburgh society in 1836, and in *Metaphysical Tracts by English Philosophers of the Eighteenth Century* in 1837. In 1837 also appeared *Memoirs of the Life and Writings of the Rev. Arthur Collier*, by Robert Benson, who was a descendant of Collier's sister, and possessed a quantity of Collier's unpublished manuscripts. A notice of the last two volumes was written in the *Edinburgh Review* in 1839 by Sir William Hamilton. But after this Collier's work again relapsed into obscurity.¹

In Germany Collier has attracted more attention. In 1717 a careful abstract of *Clavis* was printed in the *Acta Eruditorum*.² This abstract runs to only 5½ pages, but it is so good that many Continental philosophers were probably content to take their knowledge of Collier's views entirely from it. There is, at least, no doubt that the book itself became very rare in Germany, and when Bülfinger refers to it in his interesting *Dilucidationes Philosophicae de Deo, Anima Humana, Mundo et Generalibus Rerum Affectionibus*, 1746, his exact references are always to

¹ Collier receives some attention in G. Lyon, *L'Idéalisme en Angleterre*, pp. 241-293; R. Blakey, *History of the Philosophy of Mind*; W. R. Sorley in the *Cambridge History of English Literature*, ix. 287; A. C. Fraser, *Works of Berkeley*, iii. 384; and in the *Dictionary of National Biography*. A reprint of *Clavis* has been issued by the Open Court Publishing Company.

² Supplementary volume, vi. 244.

the abstract in *Acta Eruditorum*¹ and never to *Clavis* itself, which suggests that he did not have access to the book itself. Bülfinger introduces Collier as one of the protagonists of Idealism. "Mundum visibilem non esse externum prolixo contendit; tamen ad argumentum quod tactus demonstret extra-existentiam corporum respondere id non contra se, quoniam de visibili mundo quaerat non de tangibili."² He also suggests that Christian Wolff refers to Collier in one of his writings on the relation of Idealism and Orthodoxy. "Puto illum (i.e. Wolff) intendere digitum ad Arthurum Collierum, de quo ex Actis Lips. notum est, illum vel theologica ex idealismo suo corollaria v.g. adversus transubstantiationem intulisse manentibus enim speciebus nihil immutatum esse contendit."³ The fact that the reference here is to *Acta Eruditorum* and not to *Clavis* would again seem to indicate that Collier's book was not known to Bülfinger, for the view referred to is quite definitely stated in *Clavis*. "So that if these (i.e. the sensible species of bodies) are supposed to remain as before, there is no possible room for the supposal of any change." The argument is that if a thing is nothing but the secondary qualities, then so long as the secondary qualities remain unchanged

¹ At the end of this abstract the writer puts the relation of Collier and Berkeley very tersely. "Haec sunt paradoxa autoris nostri quae procul dubio non maiori plausu excipientur quam illa quae in eandem sententiam, aliis tamen argumentis, contemporaneus eius Georgius Berkeley . . . defendere conatus est." (*Op. cit.*, Supp., vol. vi. p. 249.)

² *Dilucidationes Philosophicae*, § 115.

³ *Op. cit.* § 118. *Immutatum* is an error for *mutatum*. *Acta Lips.* i.e. *Acta Eruditorum* quae Lipsiae publicantur.

no change can have taken place in the thing, and transubstantiation is therefore impossible.

Clavis was translated into German by Professor Eschenbach of Rostock in 1756. Together with Berkeley's *Three Dialogues* it forms the *Samlung der vornehmsten Schriftsteller die die Wuerklichkeit ihres eignen Koerpers und der ganzen Koerperwelt laeugnen*.¹ Appreciative accounts of Collier are to be found in the chief German histories of philosophy, e.g. Tennemann, *Geschichte der Philosophie*, x. 398–404, Ueberweg, *Geschichte der Philosophie*, ii. 121, Erdmann, *Grundriss der Geschichte der Philosophie*, ii. 291, Ernst Cassirer, *Das Erkenntnisproblem*, ii. 327, and Erich Cassirer, *Berkeleys System*, p. 162.

Of Collier's life little is known, and that little is not particularly interesting. He was born in 1680, the son of Arthur Collier, rector of Langford Magna, near Salisbury. Schooled at Winchester, he entered Pembroke College, Oxford, in 1697, and removed next year to Balliol. He took orders, and in 1704 was presented to Langford Magna, of which the advowson belonged to the family. He lived all his life in the parish, and died in 1732.

Clavis Universalis is the only book by which Collier deserves to be remembered. But he also published, in addition to a couple of controversial sermons, *A Specimen of True Philosophy*, 1730,

¹ The spelling of the original is retained. As evidence of the rarity of *Clavis* in Germany, a sentence or two may be quoted from Eschenbach's preface. "If ever any book involved trouble in obtaining it, *Clavis Universalis* is that book. At first all my attempts to get it were in vain. At last a worthy friend, Herr J. Selck, sent me the work after I had given up all hope that I should ever be able to procure it."

and *Logology*, 1732. These treatises, which are reprinted in Parr's *Metaphysical Tracts*, are theological rather than philosophical, and may be passed over in silence.

Collier's chief claim on the interest of the philosophical student arises out of the similarity of his theory to that of Berkeley. That resemblance gives rise to certain problems which have never been faced, and it seems worth while to examine them.

It has always been assumed that Collier is quite independent of Berkeley, and that he did not know of Berkeley's *Theory of Vision* or *Principles* before the publication of his own book. But it is difficult to see any ground for this assumption. Collier mentions Berkeley twice in letters written shortly after the publication of *Clavis*, and in neither case does he assert that his work is independent of Berkeley, or deny that he had seen Berkeley's *Principles*. In a letter written to Solomon Low, on March 8, 1714, he says, "He [i.e. a certain Mr. Balch who had criticised Collier] cannot show another in the world, besides Mr. Berkeley and myself, who hold the testimony of sense to be infallible as to this point" [i.e. the existence of visible objects]. Writing to Samuel Clarke on February, 14, 1715, he says, "I could almost dare to put the whole question upon trial whether you, or any man else, ever so much as heard of either of them before [i.e. the theories that the visible world is not external, but is dependent on mind or soul; and that there is no such thing as matter]; I mean before Mr. Berkeley's book on the same subject, which was published a small time before mine." It is certainly strange, if Collier had seen Berkeley's books, that he

does not refer to him in his Introduction. On the other hand, Collier does not claim originality. At first sight, indeed, there are two sentences in the Introduction which seem to claim originality for his work. He says that he has decided to publish his work, "rather than the world should finish its course, without once offering to enquire in what manner it exists." But this is simply a rhetorical flourish. Collier knew something of the history of philosophy, and he therefore knew that philosophy is simply an enquiry into the manner of the existence of the world. Again, he speaks of the "ten years' pause and deliberation," after which he had decided to bring his views to the notice of the public. But he could have said this, even if he had seen Berkeley's *Principles* before the publication of his own work. The view of the relationship which I should like to suggest is that Collier had for a considerable time been reflecting and writing desultorily on the non-existence of the external world, and that when Berkeley's books appeared he was encouraged to publish his views.¹ There is support for this theory, both on internal and external evidence.

¹ Collier makes a false statement with regard to Berkeley in *A Specimen of True Philosophy*, where he says of *Clavis Universalis*, "This work is, with the exception of a passage or two in the *Three Dialogues* of Dr. Berkeley, printed in the same year, the only book on the subject of which I have ever heard" (p. 114). This statement may be disproved out of Collier's own mouth. In the letter to Low, referred to above, he mentions, "Mr. Berkeley's book on the same subject, which was published a small time before mine." Now this must refer to the *Principles*, for the *Three Dialogues* was published after *Clavis Universalis*. Again, in the preface to the *Three Dialogues* Berkeley himself mentions the *Principles*; and therefore, as Collier had read the *Three Dialogues*, he must "have heard of" the *Principles*.

We must first examine two arguments which have been advanced for the absolute independence of Collier.

(1) It has been held that the concurrent publication of the two similar theories is a pure coincidence. This view is usually simply accepted without question. Now a purely fortuitous coincidence is always possible, and, *qua* coincidence, it admits of no explanation. And it is not *prima facie* strange that two men should independently deny the existence of the external world. It is indeed remarkable that the Berkeleyan view should have cropped up so rarely. The view is a very natural one for a man who is just beginning to think for himself to land in. It is perfectly possible that both Berkeley and Collier hit upon the same theory θείᾳ τωι τύχῃ.

(2) But it is more probable that there is some common source of their views. This is suggested by Campbell Fraser. "The agreement may be referred to the common philosophical point of view at the time."¹ "The intellectual atmosphere of the Lockian epoch in England contained elements favourable to such a result."² Let us examine this suggestion. In the first place, the early philosophical environments of the two men were as different as possible. Berkeley was educated at Dublin, Collier at Oxford. Berkeley's earlier interests were chiefly mathematical, while Collier's were classical. And the philosophers who chiefly influenced them were, with one exception, different. It is possible to reconstruct the earlier philosophical development of the two thinkers with some exactitude, because Berkeley's *Common-*

¹ *Life and Letters of Berkeley*, p. 62. ² *Works of Berkeley*, i. 253.

place Book gives a good idea of what he was reading and thinking between 1705 and 1708; and in the case of Collier, the manuscripts dated from 1703 onwards enable us to measure the forces which played upon him.

Collier was influenced chiefly by Norris. Both by conversation and by his books Norris affected the trend of Collier's thought. When Collier mentions Norris, he uses terms of exaggerated veneration, though he does not follow him blindly. It is because of the greatness of his esteem for "the great and excellent Mr. Norris" that he never criticises him directly, but when he is forced to differ from him always mentions his views in the form of an objection to his own, "that I may seem rather to defend myself than voluntarily oppose this author."¹ Collier's central thought—the non-existence of the external world—is certainly not due to Norris. Norris definitely considers the question, and concludes that it is arrant scepticism to doubt its existence.² And Norris is no sceptic. But the general form of the exposition of Collier's theory shows the influence of Norris, and Collier readily admits this. Collier also admits the influence of Malebranche. On the question of the existence of the external world, Malebranche and Norris are in agreement, but Collier acutely points out that Malebranche's purely philosophical arguments do not entitle him to assert its existence. In the last resort, Malebranche founds the existence of the external world on the authority of Scripture. Now, Collier suggests that Scripture does not really bear him out,³ and he argues that if

¹ *Clavis*, p. 123.

² *Ideal World*, i. iv.

³ *Clavis*, p. 114.

Malebranche were only consistent, and remained throughout on the strictly philosophical level, he would be forced to the same conclusion as Collier himself. Collier is anxious to emphasise his agreement with Norris and Malebranche.

On the other hand, Berkeley denies, even violently, that he has been influenced by them, or is in any way in agreement with them. Thus he writes to Percival, "As to what is said of ranking me with Father Malebranche and Mr. Norris, whose writings are thought too fine-spun to be of any great use to mankind, I have this to answer: that I think the notions I embrace are not in the least coincident with, or agreeing with theirs, but indeed plainly inconsistent with them in the main points, insomuch that I know few writers whom I take myself at bottom to differ more from than them." So far as his attitude to Norris is concerned, this disclaimer is fully justified. In his writings he does not mention Norris once, his works do not show any sign of influence, and apart from this reference in a letter there is no evidence that he ever read him. But with Malebranche it is different. Berkeley certainly knew his works well, refers to him frequently in the *Commonplace Book* (pp. 9, 24, 38, 50, 51, 76, 78, 81), and went to see him in Paris.¹

¹ In a letter to Prior (November 25, 1713) Berkeley says, "Tomorrow I intend to visit Father Malebranche, and discourse him on certain points." The Abbé d'Aubigné was to introduce him, as he informs Percival in a letter written on November 24, 1713. Unfortunately Berkeley says nothing further of this visit. This is not to be confounded with the interview which Berkeley is said to have had with Malebranche two years later, when he became the "occasional cause" of his death. This story, an amusing version of which is given by De Quincey in *Murder considered as one of the Fine Arts*, appeared probable to Dugald

There is no doubt at all, as we have seen in an earlier chapter, that Berkeley was influenced by Malebranche, though this was probably more by repulsion than by attraction. In the *Commonplace Book* he criticises Malebranche with regard to his views on divine agency and the existence of the external world. The French Father maintained that our belief in an external world is grounded on our inclination to believe in its existence, and on the Scriptural warrant for it.¹ The former ground is obviously unsatisfactory, and ultimately Malebranche is reduced to the latter. But Berkeley points out that this is, as a philosophical argument, no better than the other. And Berkeley also differs from Malebranche with regard to causation. For Malebranche all causation, human as well as natural, is divine.² Berkeley, less consistently, refers natural causation to divine power, but reserves human agency to man's will. "We move our legs ourselves," he says, "it is we that will their movement. Herein I differ from Malebranche."³ But, on the whole, as we have seen, Berkeley's general view of causation is simply a modified version of Malebranche's. In fact, had the Frenchman not been anxious to maintain his ecclesiastical orthodoxy he might well have anticipated Berkeley in his most notable innovations. Malebranche had a real influence both on Berkeley and on Collier.

Stewart (*Works*, i. 161), and even to Sir William Hamilton (*Discussions*, p. 198), but, as is shown by the Berkeley-Percival correspondence, it is certainly fictitious.

¹ *Entretiens sur la métaphysique*, vi. § 8.

² *Méditations Chrétiennes*, v. 54.

³ *Commonplace Book*, i. 24, cf. i. 55.

But no other thinker exercised an influence on *both* men. Locke's influence on Berkeley was so great that, as we have seen, had there been no Locke there would have been no Berkeley. But there would certainly have been a Collier. Not only does Collier never mention Locke, but his books do not breathe the Lockian atmosphere. It was certainly not the influence of Locke that was responsible for the concurrent development of the two theories. But on Collier the scholastic philosophy had a great influence and he never frees himself from Scholastic terminology.¹ On the other hand, Scholasticism had hardly any effect on the formation of Berkeley's philosophy.

On the whole, then, the philosophical influences which played upon Berkeley and Collier were very different, and it seems impossible to maintain that there was any really common source of their theories. And, indeed, that Berkeley and Collier should both have hit on the same doctrine is not at all surprising. What is surprising is that it had not been suggested long before. The philosophical groundwork and premises of the Berkeley-Collier theory are to be found in the speculations of the Schoolmen. That the Schoolmen produced no system akin, in its conclusions, to Berkeley's Idealism was due to (1) their physiology, and (2) their theology. In the schools a question frequently proposed for determination was, "Whether God may not maintain

¹ The first nine chapters of Part II. of *Clavis* are almost entirely on the Scholastic level. Collier seems to have been acquainted with Scholasticism mainly through the manuals of Baronius and Scheiblerus. He mentions Suarez once (*Clavis*, p. 42).

the species¹ before the mind, the eternal reality being destroyed?" or, "Whether God may not bring before the senses the species representing an external world, though the external world in reality does not exist?" On purely philosophical grounds the weight of opinion is in favour of an affirmative answer. But the physiological and theological presuppositions of the schools proved too strong to allow of its being elevated to the rank of "probable" doctrine.

(1) The Schoolmen, following Aristotle, held that the physiological conditions of sense-perception were such as to make all sense-perception impossible apart from external material reality. In visual perception material things were supposed to give rise to certain images. These impinge upon the active intellect, which spiritualises them into ideas, and hands them over to the passive intellect, which perceives them; and as *nihil est in intellectu quod non prius fuerit in sensu*, no knowledge at all is possible apart from an external world. But when the physiological revolution, with which Descartes had much to do, took place, the supposed necessity of the external world for sense-perception was removed. It is noticeable that Malebranche does not use this argument in support of the existence of an external world.

(2) Theologically also an Idealism such as that of Berkeley was an impossibility for the Schoolmen. They were well acquainted with idealist premises, but on theological grounds they refrained from drawing idealist conclusions. It did not escape their

¹ "Species," i.e. "ideas" in Berkeleyan terminology. Collier uses "species."

notice that Subjective Idealism is incompatible with the dogma of Transubstantiation. So long as philosophy continued to be ancillary to a theology which maintained Transubstantiation, Subjective Idealism was impossible. Collier expressly points out that his theory disproves Transubstantiation. Berkeley does not mention this as a consequence of his doctrine, probably because he was acute enough to see that it also gave rise to difficulties in connection with the Incarnation. It was thus perfectly natural that two thinkers, born at the time that Berkeley and Collier were, and acquainted, as they were, with Scholasticism and the New Philosophy, should have reached their conclusions.

We have thus seen that it is possible that the concurrent formulation of idealist theories by both Collier and Berkeley was either a pure coincidence or the result of what Lyon has called "the imperious power of an inner logic."¹ But, on the whole, it is more probable, I think, that Berkeley exercised a direct influence on Collier. For this view there is some evidence, both on external and on internal grounds.

The external evidence (which we shall take first) is, it must be admitted, of the circumstantial variety; but, at the very least, it seems plausible that Collier had seen Berkeley's book before the publication of his own. As we have already seen, when Collier mentions Berkeley in letters written about a year after the appearance of *Clavis* he does not deny prior acquaintance with the *Principles*. And it is really very difficult to believe that Collier

¹ *L'Idéalisme en Angleterre*, p. 250.

did not, in fact, know of its argument before the printing of his own book. For the *Principles*, published in 1710, created a good deal of stir in London. Berkeley's friend Percival did his best to make it widely known, and though the reports he sent to Berkeley were not altogether encouraging, they showed at least that people were talking about his book. Thus, in one of his regular bulletins, he writes, "A physician of my acquaintance undertook to describe your person, and argued you must needs be mad. A bishop pitied you. Another told me an ingenious man ought not to be discouraged from exerting his wit." Again, he writes of the attitude of Clarke and Whiston towards Berkeley as follows, "I can only report to you at second hand that they think you a fair arguer and a clear writer, but they say your first principles you lay down are false." And, finally, he says that Lord Pembroke thought that Berkeley was "an ingenious man, and ought to be encouraged, but that he could not be convinced of the non-existence of matter." It is clear, then, that Berkeley was being talked about, however unintelligently, in literary and philosophical circles in London in 1710. Is it likely that Collier did not hear of him? Langford Magna is not London. But Collier was not as isolated as one might think. The neighbouring parish is Bemerton, the rector of which, John Norris, "the English Malebranche," was still alive. And Salisbury, the cathedral town, was at that time quite a literary centre. Further, through his wife, who was a niece of Sir Stephen Fox, paymaster of the army, he had a connection with London. Lastly, Collier was a friend and correspon-

dent of Whiston. Now Whiston had received from Berkeley a copy of his *Principles*, and was so much interested that he went to see Clarke about the new doctrine.¹ It seems exceedingly probable, especially if he knew that Collier's thoughts were running in the same direction, that he informed Collier of Berkeley's book. All this evidence amounts, it is true, to nothing more than probability; but the probability seems almost convincing.

But it is certain that Collier had been incubating the theory himself long before he could have heard of Berkeley. In the first place, we have his explicit statement, already quoted, that he entertained his doctrine for ten years before publishing it. He must, therefore, have adopted it in 1703, a year before he became rector of Langford Magna. Further, Benson had in his possession, when he wrote the Memoir of Collier, three of Collier's manuscripts, which contain drafts and sketches of the theory which was finally promulgated in *Clavis*. The first of these is dated 1708, and is entitled *Sketch of a Metaphysical Essay on*

¹ [Berkeley] "was pleased to send to Mr. Clarke and myself each of us a book. After we had both perused it, I went to Dr. Clarke and discoursed with him about it, to this effect, that I being not a metaphysician was not able to answer Mr. Berkeley's subtle premises, though I did not at all believe his absurd conclusion. I therefore desired that he, who was deep in such subtleties, but did not appear to believe Mr. Berkeley's conclusion, would answer him, which task he declined." (Whiston's *Historical Memoirs of the Life of Dr. S. Clarke*, pp. 133-4.) Collier is not mentioned in Whiston's *Memoirs of the Life and Writings of Mr. William Whiston*, containing *Memoirs of Several of his Friends also*. But in this strange autobiography Whiston makes a system of mentioning only those of his friends who were well known or connected in some way with the controversies in which he engaged. And Collier was not well known, nor did he concern himself with Whiston's conflicts with his Church and University.

the Subject of the Visible World being without Us or not.

On the whole, the external evidence seems to show that (a) Collier had seen Berkeley's book before he published his own; but (b) he had hit upon the theory independently.

The internal evidence is, from the philosophical standpoint, more interesting. Here again, however, we must be concerned with arguments which are merely probable. It must be admitted that there is nothing whatever in *Clavis* which makes it certain that Collier had seen Berkeley's book; but on the whole, internal evidence seems to support our theory.

In *Clavis* Collier's question is, "Is there an external world?" While Berkeley denies mainly the materiality of the world, Collier denies its externality. In the end the two arguments reach the same conclusion; but the arguments are different, and their tendency is different. Collier defines his terms very broadly. By "world" he understands "body, extension, space, matter, quantity, etc."¹ And when he speaks of the world as "not external," he means that it "exists in, or in dependence on, mind, thought, or perception."² He gives three examples of what exactly he means by saying that a thing exists in, or in dependence on mind. It may exist in mind, first, as an accident exists in substance (Thus there is only one substance —mind: matter is only an accident. Hence the Cartesian two-substance doctrine is by implication denied); second, as a body exists in a place (A most unfortunate example, for it suggests that the mind,

¹ *Clavis*, p. 2.

² *Ibid.* p. 3.

in which all things exist, is a place, and that "inside the mind" and "outside the mind" are spatial relations. And to do Collier justice, he really does not mean that); thirdly, as an object of perception exists in its respective faculty. Collier prefers the last way of stating the relation. As objects seen in hallucinations or dreams are admitted to exist in, or in dependence on, mind, so, Collier maintains, all the world exists. These definitions and explanations are made in the Introduction. In Part I. he endeavours to show that the visible world is not external. First, in Chapter I. section i. he holds that what is visible *need not* be external, and then in Chapter I. section ii., that what is visible *cannot* be external.

(1) Collier's first thesis is that what is visible is not necessarily external, or that a thing may seem to be external without being really so. The first argument he adduces is fallacious. He maintains that an object of imagination seems as much external as an object of perception. An object of imagination, for example a centaur, need not have external existence. Therefore what seems to be external need not be so. But it is psychologically false that an imagined object seems as much external as a perceived object. The imagined object is recognised as being dependent on the mind in a way in which the perceived object is not. Collier's next arguments, however, are better. Secondary qualities, though seemingly external and independent, are now admitted, he says, thanks to the proofs of "Mr Des Cartes, Mr Malebranche, and Mr Norris," not to be really so, but to be dependent on mind. Thus what is visible is not necessarily external.

Collier then adduces a series of arguments to show that men in hallucinations, visions, dreams, etc., see objects which seem to be external. But these objects are normally admitted not to be really external. Thus, on this count also, what is visible is not necessarily external.

(2) Having, as he thinks, shown that what is visible *need not* be external, Collier proceeds to prove that it *cannot* be external. In this he entirely fails. He rests his argument chiefly on an experiment which he requests each of his readers to make. Press or distort the eye, and look at the moon. Two moons will be seen. These moons cannot both be external. Therefore neither can be external. The fallacy, of course, is the very simple one of inferring that because both cannot be external therefore neither can be external. Collier says that one cannot be external without the other's being external also, because in that case it ought to be possible to distinguish between the percepts, and this cannot be done. But note what the experiment involves. It implies interference with the normal conditions of sense-perception. Collier's argument, indeed, is this. Because under certain abnormal conditions, e.g. when you press your eye or labour under hallucination, you seem to see something which is external, but which is really not, therefore always under normal conditions what is seen to be external is not really so. From a proposition which is true sometimes in abnormal conditions Collier attempts to deduce one which is true universally under normal conditions.

Part II. of *Clavis* extends the arguments of Part I. to the whole world. Part I. was to prove that the

visible world is not external. Part II. sets out to show that there is no external world at all. But the nine arguments which Collier brings forward, and the three objections to which he replies, really make no further contribution to the problem. These pages are cast in a Scholastic mould, bristle with technical terminology, and are both in matter and style as different as possible from Berkeley's work.

All in all, we have so far seen little real similarity between Berkeley and Collier. Collier's Introduction is written with the Cartesians in view, Berkeley's is directed largely against Locke. And in the main body of his work, Collier uses a great many arguments which Berkeley was far too acute to employ. In the general tendency of their doctrines there is a real and most significant difference. Collier is mainly negative, while Berkeley, though employing destructive criticism, is positive in method, intention and result. Collier's thesis is, What is visible is not external, or, more generally, The external world does not exist. Berkeley's, on the other hand, is *Esse est percipi*, or, more generally, The world does exist as a world of ideas. So far, Collier's work has revealed absolutely no trace of the influence of Berkeley.

But there are two passages in *Clavis*, one at least introduced as an afterthought, which bear a much closer resemblance to Berkeley's attitude and standpoint than to Collier's; and it is, I think, neither fanciful nor uncharitable to suggest that we may, in these pages, detect the influence of Berkeley. In these passages, which occur on pp. 5-10 and 36-37, we find the following specifically Berkeleyan views which appear nowhere else in the treatise.

(1) The positive doctrine is affirmed that what is visible does really exist. "It is with me a first principle that whatsoever is seen is."¹ "The objects we speak about are supposed to be visible; and that they are visible or seen is supposed to be *all* that we know of them or their existence. If so, they exist as visible, or, in other words, their visibility is their existence."² Now, all this is clearly very similar to Berkeley's *esse* is *percipi*. And it may be noted that Collier has very little corresponding to Berkeley's *aut percipere*. The theory of spirit, which hardly appears at all in those of Berkeley's works which Collier could have seen, is practically non-existent in Collier's own writings.

(2) Collier "makes no doubt or question of the existence of bodies, or whether the bodies which are seen exist or not."³ Bodies that are seen certainly exist, for their existence is constituted by their visibility. It is noteworthy that on this point Collier agrees with Berkeley against Malebranche, whom, as we have seen, he usually follows.

(3) He attributes "the seeming or *quasi* externity of visible objects" to the will of God. In granting to objects this quasi-externality God does not act capriciously, for it is "a natural and necessary condition of their visibility."⁴ With this may be compared Berkeley's theory of God as the cause of the reality of the world, and of God's volitions as the arbitrary but not capricious laws of nature.

(4) Collier holds that the mind does not cause its own ideas or objects of perception, though it is

¹ *Clavis*, p. 5.

³ *Ibid.* p. 5.

² *Ibid.* pp. 36-37.

⁴ *Ibid.* p. 7.

responsible for its own imaginative experience. He sharply distinguishes mind from will, and maintains that though man is free to will as he pleases, the mind must perceive objects as they are presented to it by God, according to natural and necessary conditions. All this is precisely Berkeley's doctrine. And again, it should be noted, Collier has joined with Berkeley against Malebranche, who maintained that all human as well as all natural causation is due to God.

(5) Collier points out, finally, that when he argues that all matter necessarily exists in some mind or other, he does not restrict the conception of mind to created mind. It is in the mind of God that matter exists permanently.¹ Collier is not so fully aware as Berkeley of the indispensability of God to guarantee the permanent existence of the world. But the view is there.

We have, then, half-a-dozen most important points in which Collier agrees with Berkeley stated in two short passages of half-a-dozen pages, and nowhere else in the book. In the rest of the treatise the resemblance between the two "Idealists" is really very slight. Thus there seems to be some ground for supposing that in these six or seven pages, possibly introduced after the rest was in manuscript, Collier was directly indebted to Berkeley. It must, however, be repeated that nothing more than probability is claimed for these arguments.

It may be mentioned, in conclusion, that it is not difficult to account for the difference in the fortunes enjoyed by Berkeley's and Collier's books, both among their contemporaries and in the estimation

¹ Cf. *Clavis*, pp. 9-10.

of history. On their intrinsic philosophical merits, the *Principles* and *Dialogues* are in a different class altogether from *Clavis*. And while Berkeley's literary style is the most delightful in the history of English philosophy, Collier's is gnarled and technical, and even in his own day must have sounded antiquated. Further, Berkeley made himself known to his own generation by plunging vigorously into nearly all the public debates of the time, while Collier's nearest approach to controversy was a mild indulgence in the Arian heresy. And finally, while Berkeley always tried to enlist people on his side by gradually "insinuating" his views, Collier's book breathes the very spirit of *odi profanum*, and he takes as his motto the dictum of Malebranche : "Vulgi assensus et approbatio circa materiam difficilem est certum argumentum falsitatis istius opinionis cui assentitur." Nothing could be more different than this from Berkeley's endeavour to base his theory on principles approved by common sense.

APPENDIX II

JOHN SERGEANT

JOHN SERGEANT, critic of Locke and precursor of Berkeley, was born in 1622. He was admitted a sub-sizar of St. John's College, Cambridge, in 1639, and soon after leaving the University he was converted to Roman Catholicism. Thenceforth he employed his gifts, which were considerable, in the defence and propagation of his Faith. He took part in most of the controversies of the time in religious, philosophical, and political matters ; and, as a vigorous defender of the Roman Catholic Church, he encountered almost every great Protestant thinker and writer of his day. In 1707 he died, as he had lived, "with a pen in his hand."

He produced in all 36 works, the great majority of which are controversial pamphlets on theological questions. Only three of his books are of philosophical importance, and they were all written near the end of his life. They are :

1. *The Method to Science*. London, 1696.
2. *Solid Philosophy Asserted, Against the Fancies of the Ideists : or, The Method to Science Farther Illustrated. With Reflexions on Mr. Locke's*

Essay concerning Human Understanding. London, 1697.¹

3. *Transnatural Philosophy, or Metaphysics: Demonstrating the Essences and Operations of all Beings whatever, which gives the Principles to all other Sciences. And shewing the perfect Conformity of Christian Faith to Right Reason, and the Unreasonableness of Atheists, Deists, Anti-trinitarians, and other Sectaries.* London, 1700.

Very little attention has been paid by historians of philosophy to Sergeant's work. In this Appendix I propose to give a short account of Sergeant's general attitude to the problems of philosophy in view of the interest it possesses for the student of Locke and Berkeley.

Sergeant believes that the failure of philosophy is due to its faulty methods, and that for its renaissance the first requisite is an adequate method. A survey of the history of philosophy, with its differences and controversies, its false beginnings and inept conclusions, fills him with despair, especially when its lack of progress is compared with the advances made in mathematics.² Sergeant accordingly suggests, pre-

¹ The two copies of this book which I have seen have slightly different title-pages. One gives the author's name in the form which Sergeant generally uses, viz. "By J. S.", the other has no indication who the author is.

² He expresses his philosophical aim in very vigorous language in the Epistle Dedicatory of his *Solid Philosophy*. "Wherefore, seeing philosophy reduced to this lamentable condition, . . . I thought it became me to reinstate Reason in his sovereignty over Fancy; and to assert to her the rightful dominion Nature had given her over all our judgments and discourses. I resolved therefore to disintegrate Truth (which lay too deep for Fancy to fathom) from all those labyrinths of error. I observ'd that philosophy labour'd and languish'd under many complicated dis-

cisely as Kant subsequently did, that philosophy might do well to study the method of mathematics with a view to improving its own. And he sets himself to consider "whether the same clear way has been taken in other parts of philosophy as has been in that science (*i.e.* mathematics)."¹ The great advantage of the method of mathematics is, in his view, that it is definitive and demonstrative. "'Tis evident," he says, "that geometers do lay for their axioms self-evident propositions and clear definitions; and their postulatum are not such as are merely begg'd or supposed, and so need our favour to let them pass for truths; but they claim our assent to them as their due; and the consequences they draw are all of them immediate; which makes the contexture of the whole work close and compacted."² These advantages are not enjoyed by philosophy, because its votaries do not follow the rigorous way of mathematics. "I have not observed," he continues, "that any other sort of philosophers have taken that clear method.³ Whence we

tempers (all springing from this way of ideas) and that they were grown epidemic; nor could they be cur'd by the application of remedies to this or that particular part, or by confuting this or that particular error. Hereupon, having found out the true cause of all these maladies of human understanding, I saw it was necessary to stub up by the roots that way itself; and, by close and solid reasons, (the most decisive weapons in Truth's armory) to break in pieces the brittle glassy essences of those fantastick apparitions; which, if a right way of reasoning be settled, and understood, will disappear and vanish out of the world, as their elder sisters the Fairies have done in this last half century." (*Solid Philosophy*, Epistle Dedicatory, pp. 8-9).

¹ *Method to Science*, Preface, p. 6. ² *Op. cit.* Preface, p. 6.

³ Sergeant later admits that suggestions towards the mathematical method are to be found in Descartes (*op. cit.* Preface,

have good reason to suspect that the want of observing this method, or something equivalent to it, has been the sole occasion of all those deviations from truth and disagreements among philosophers in their tenets and conclusions, which we find in the world.”¹

Like Kant, also, Sergeant develops his method by criticism of the two methods previously employed by Descartes and Locke respectively, which he calls the Speculative and the Experimental. It is characteristic of the former method to proceed by what Sergeant calls “Reason and Principles,” while the latter is the method of Induction.²

Sergeant considers and examines each of these methods in turn. The Cartesian method, in the first place, is based on a first principle which claims to be self-evident. He criticises this first principle on several counts, of which the most important are the following.

Descartes’ procedure for the discovery of the principle “Cogito ergo sum” is unnecessary, for he could have reached the certainty of his own existence equally well, at the very beginning of his method of doubt, in the proposition “Dubito ergo sum.” And, since in each case the existence of a mental process is conceived to prove the existence of a thinking being, if “Cogito ergo sum” is conclusive of his own exist-

p. 86). The mathematical method was also adopted, at least to some extent, by Spinoza and Cumberland. Sergeant knew Spinoza, but he does not seem to have known Cumberland’s work. He was well acquainted with the writings of the Cartesians, mentioning Malebranche frequently, and also Régis, Rohault, Regius and Le Grand, with the latter of whom he engaged in controversy.

¹ *Op. cit.* Preface, p. 6 f. ² *Method to Science*, Preface, p. 27.

ence, so is “Dubito ergo sum.” “Nor can any reason be given,” he says, “why ‘Ego sum dubitans’ does not include in it ‘Ego sum’ as well as ‘Ego sum cogitans’ does. And Cartesius himself (Medit. 3d) confesses the same expressly. To what end, then, did he run on in a long ramble of doubting, whenas the very first act of doubting would have done his whole business, and have prov’d that he is ? ”¹

Sergeant objects, in the second place, that Descartes’ first principle is methodologically self-contradictory. It is the nature of a genuine first principle to be self-evident; that is, it is incapable of being reached by inference or validated by proof, for there is nothing more evident than it from which it may be inferred or by which it may be proved. But “Cogito ergo sum” involves, as the illative particle *ergo* indicates, a process of inference; and it is therefore not a true first principle. And, Sergeant points out, it is impossible to defend Descartes, as Spinoza had attempted to do, by denying that he meant an inference, and reading as his first principle one positive proposition, viz. “Ego sum cogitans.” For Descartes himself uses terms compatible only with the assumption that an inference is implied, when he says expressly in the third Meditation, “Ex eo quod dubito sequitur me esse.”

But though Descartes is not pinned down to his own words, and though we agree with Spinoza that the principle may be stated “Ego sum cogitans,” it is clear that the *whole* first principle has been reached by a process of inference. Descartes’ whole method of doubt is ultimately a method of inference, and his

¹ *Ibid.* Preface, p. 32.

principle, which is reached at the end of the process of doubt, is therefore not self-evident. "For, if this was evident of itself, and not needed to be proved, he might have proposed it at first, without making all that a-do."¹ Since, then, the principle is not self-evident, it cannot be a genuine first principle.

For these and other reasons, Sergeant concludes that the Cartesian method is, as method, inadequate.²

Equally inadequate, in his judgment, is the inductive experimental method. He does not attempt any detailed criticism of it, as method, in the *Method to Science*, but simply asserts that it is utterly incompetent to beget science.³ He takes the position that no universal truths can be demonstrated on a

¹ *Method to Science*, Preface, p. 34.

² It may be mentioned that Sergeant criticises Descartes' ontological proof of the existence of God on lines closely similar to those on which Kant subsequently based his destructive criticism. The essence of his argument, which is not expressed nearly so clearly as Kant's, is that it is impossible to conclude from conception to existence, and therefore that my conception of God does not warrant the conclusion that he actually exists. "We may consider the notion of existence, or (which is all one), know the meaning of that word, and yet abstract whether it does *actually* put its formal effect, that is, whether that existence is exercis'd or not exercis'd in the thing; which consideration alone spoils his whole argument. Let us put a parallel. I have a complex idea of these words "My debtor will pay me a hundred pounds tomorrow at ten o'clock at his goldsmith's"; that is, I have in my mind the meaning of all the words; and existence is necessarily involv'd in the meaning of those words, for they signify determinate persons, time, place, and action, all which involve existence; will it therefore follow that that action of paying me money will be, because my idea includes the existence of that action, so determinately circumstanc'd? (*Method to Science*, Preface, p. 46 f.).

³ *Method to Science*, Preface, p. 57. Cf. *Solid Philosophy*, Preface, § 2, 3, 6.

basis of actual data obtained by experiment, for no mere enumeration of particular facts can lead logically to the enunciation of a universal proposition; and he even declares that "when an experiment, or (which is the same) a matter of fact in nature is discovered, we are never the nearer knowing what is the proper cause of such an effect, into which we may certainly refund it; which, and onely which, is the work of science."¹ His point is that those who pretend that their principles are derived by induction from particulars really interpret these particulars according to principles which they assume on grounds other than those supplied by the particulars themselves.

The method that Sergeant himself adopts is a mathematico-logical one, in which emphasis is laid on system as exemplified in logical concatenation and mathematical proof.² System in philosophy is recognised by him to be of the very first importance. He professes that his method is a new one, and expects much of it; but, in reality, it is largely a réchauffé of Aristotelian logic. He points out that Aristotle has been misrepresented by the Schoolmen, and he regards it as part of his task to reinstate the philosophy of Aristotle by re-interpreting his works. Sergeant's ideal is a "solid" philosophy, and he takes care to state that "those who followed Aristotle's principles (as the great Aquinas constantly endeavoured) did generally discourse, even in such subjects, when they had occasion, very solidly."³

¹ *Method to Science*, Preface, p. 59.

² *Method to Science*, p. 60 ff.

³ *Solid Philosophy*, Epistle Dedicatory, p. 3.

Sergeant believes that it is impossible to demonstrate philosophy solidly unless our notions are clearly defined. "The proper and effectual way to gain a clear and distinct knowledge of our simple notions is to make *definitions* of them."¹ Hence he advocates, as one of the first and most important pre-requisites of philosophical progress, the compilation of a standard dictionary. "They (sc. definitions) are such necessary instruments to true and solid science, that I could wish for the improvement of knowledge that our Universities would appoint a Committee of Learned Men to compile a Dictionary of Definitions for the notions we use in all parts of philosophy whatever."²

Though Sergeant criticises Locke and Descartes severely, he agrees with them in the initial assumptions of their two-substance doctrine.³ Man, he says, is one thing, compounded of a corporeal and a spiritual nature. Each of these two natures gives rise to a mental operation proper and peculiar to it. The bodily faculty is that called Imagination or Fancy, the spiritual faculty is Mind or Understanding. There are some beings, e.g. brutes, which possess in strictness no souls but only bodies, and consequently their mental operations are limited to such perception as the faculty of Fancy enables them to have. On the other hand, purely spiritual beings, such as angels, have no faculty of Fancy (for that is essen-

¹ *Method to Science*, Preface, p. 51.

² *Method to Science*, Preface, p. 53. Cf. Berkeley's conception of the necessity of a Dictionary of Definitions for a demonstrative science of ethics.

³ *Solid Philosophy*, Preface, § 18. Cf. p. 65 ff.

tially dependent on body) but only Mind or Understanding. Man, however, as a complex being, possessing both body and soul, and consequently both Fancy and Understanding, knows by means of both spiritual notions and material ideas or phantasms. Sergeant points out that, in the history of philosophy, notions and ideas have very commonly been confused, and he maintains that one of the most necessary tasks for the reformer in philosophy is to explain carefully the differences between them.¹

His account of sense-perception is largely based on Scholastic and Cartesian theories. All bodies, he holds, emit "effluviums," i.e. minute and imperceptible particles, which pass through the "pores" of the senses, and are thus carried to the brain. Now, the particles and the motions they cause in the sense-organs are material, but the notions which they produce in the soul are not material. How, then, are we to explain this interaction and intercausation of body and mind? Sergeant accounts for it by a supposition that was then very generally made. "There must be some chief corporeal part in man," he says, "which is immediately united with the soul, as the matter with its form, and therefore is primarily corporeo-spiritual, and includes both natures."² This part of the body is, in the view of Descartes, the pineal gland. And Sergeant agrees that between body and soul, in the pineal gland, there is a close interaction. "When that part is affected, after its

¹ Some account of Sergeant's conception of the relation between ideas and notions has been given above, in connection with our investigation of Berkeley's theory of notions.

² *Solid Philosophy*, p. 66.

peculiar nature, corporeally, the soul is affected after its nature, that is spiritually or knowingly."¹ The body is regarded as the matter of the human being, the mind as the form ; and in the pineal gland there occurs what Sergeant calls "the immediate identification of matter and form." He does not, however, mean that they are completely identical. They still remain as matter and form respectively ; and each is affected in a way peculiar to itself and therefore different from the other. It is essential that the soul or the seat of knowledge, though identified in the pineal gland with the corporeal nature of the body, should yet be independent of it, for it must be so distinct from the body as to be able to abstract from the actual concrete effluvia supplied to it, and thus form universal notions. It is this fact of abstraction that explains why it is that the effluvia do not always cause in the mind the notion of the object as a whole from which they come. The effluvia enter consciousness through different sense-organs, and are "imprinted diversely" according to the particular sense-organ through which they come. And it is possible to consider the effluvia abstractly according to the sense-organs through which they come, and in this way to form notions not of the object as a whole, but of some one aspect of it. And it is in this way that abstract notions are produced.

Sergeant admits that the word "notion" is ambiguous, for it may mean either what he himself calls an *act* of knowing, or the *object* known.² Now,

¹ *Solid Philosophy*, p. 66.

² Cf. the distinction made in recent psychology and epistemology between *act* and *object* (*Akt* and *Objekt*).

he admits that in philosophy both *act* and *object* are of importance, for "there are two considerations in knowledge, viz. the *act* of my knowing power and the *object* of that act, which as a kind of form actuates and determines the indifference of my power, and thence specifies my *act*."¹ He explains, however, that he does not take notion in the *subjective* sense of an *act* of simple apprehension, but in its *objective* meaning ; and he accordingly gives the following definition. "A notion is the very thing itself existing in my understanding."² Yet, though he insists that notion and thing are identical, he admits that their manners of existing differ. The notion of a thing, e.g. a stone, *qua* "in the mind," has a spiritual manner of existing, whereas the thing itself has a corporeal manner of existing. He maintains, however, that this difference of manner of existing has no effect on what he believes to be the essential identity of "thing" and "notion."³

He illustrates this conception of identity through difference by the relations between notions in human minds and in the mind of God. Things, he believes, were in the divine understanding prior to their creation ; and they still exist there as divine archetypes. But, as created things, they exist also as notions in human minds. It is essentially the same thing that thus exists both in God's mind and in human minds.⁴

This doctrine of notions is expounded, with many applications and in great detail, in the *Method to Science* and *Solid Philosophy*. In the former book Sergeant classifies the "common heads of notions"

¹ *Solid Philosophy*, p. 26. ² *Op. cit.* p. 27. ³ *Op. cit.* p. 38.

⁴ *Op. cit.* p. 40.

according to the Aristotelian table of categories. The whole book is, in fact, Aristotelian in tendency and execution, and it professes to lay down the principles of all scientific knowledge. He maintains, as we have seen when considering his criticism of Cartesianism, that all genuine first principles are self-evident propositions.¹ Self-evidence in a proposition he understands in a very strict sense to require the formal identity of its terms. The terms need not, indeed, be verbally or grammatically identical, but they must be capable of reduction to verbal and grammatical identity. He attempts to show in detail that the first principles which form the basis of all philosophical sciences are self-evident propositions of this sort.

Thus, as the first principles of metaphysics he mentions various forms of the Law of Identity, e.g. "Self-existence is self-existence," "What is is," "Ens is ens." Different expressions for the Law of Contradiction are also given, e.g. "Existence is not non-existence," and "Tis impossible the same thing should both be and not be at once."

The first principles of other sciences are also identical propositions. The science of physics is grounded, he maintains, on the principle "Corpus est quantum" or "Corpus est extensum." Now, these formulations of the first principles of physics are not verbally self-evident, but, "if we rifle the words to get out the inward sense,"² we shall find that they are really self-identical. "Corpus est extensum" really means, if we examine it carefully, "Ens extensum est ens extensum" or "Corpus est

¹ *Method to Science*, p. 130 ff. ² *Ibid.* p. 151.

"corpus," propositions which are obviously formally self-evident.

The first principles of mathematics also are self-evident. They are reducible to formally self-identical propositions. Sergeant merely mentions two such propositions: "A whole is greater than part of itself" is not verbally identical; but it may be reduced to a verbally identical proposition; and the axioms about equals in Euclid's *Elements* may all be reduced to the identical proposition, "Aequale est aequale sibi."

These are examples of some of the identical propositions involved in some of the most important philosophical sciences. Sergeant believes that the arguments which he has used in connection with these first principles apply equally to all others; and consequently he affirms, as a universal proposition, that all the first principles of science are ultimately self-evident propositions.

Solid Philosophy is intended, as the Preface shows, to apply the principles developed in the *Method to Science* to criticism of Locke, or rather, to criticise Locke from the standpoint of the *Method to Science*. It examines Locke's *Essay* chapter by chapter and verse for verse in much the same way as Leibniz did in his *Nouveaux Essais*, and its total of 534 closely-printed pages contains many acute and searching criticisms of the theory of Locke. The general lines of his criticism of Locke's theory of ideas have already been indicated in connection with our account of the very similar criticisms of Locke developed by Berkeley in the *Commonplace Book*. For our purpose, at least, that is the most interesting of his criticisms;

but the book is packed with passages, often indeed prolix and inept, but frequently terse, incisive and suggestive, which deserve the close attention of all students of Locke and Berkeley. To give an adequate account of these criticisms within the limits of this Appendix would be an impossible task, and it will not be attempted. But enough has perhaps been said to show that Sergeant merits study by all who are interested in the philosophy of Locke and Berkeley.

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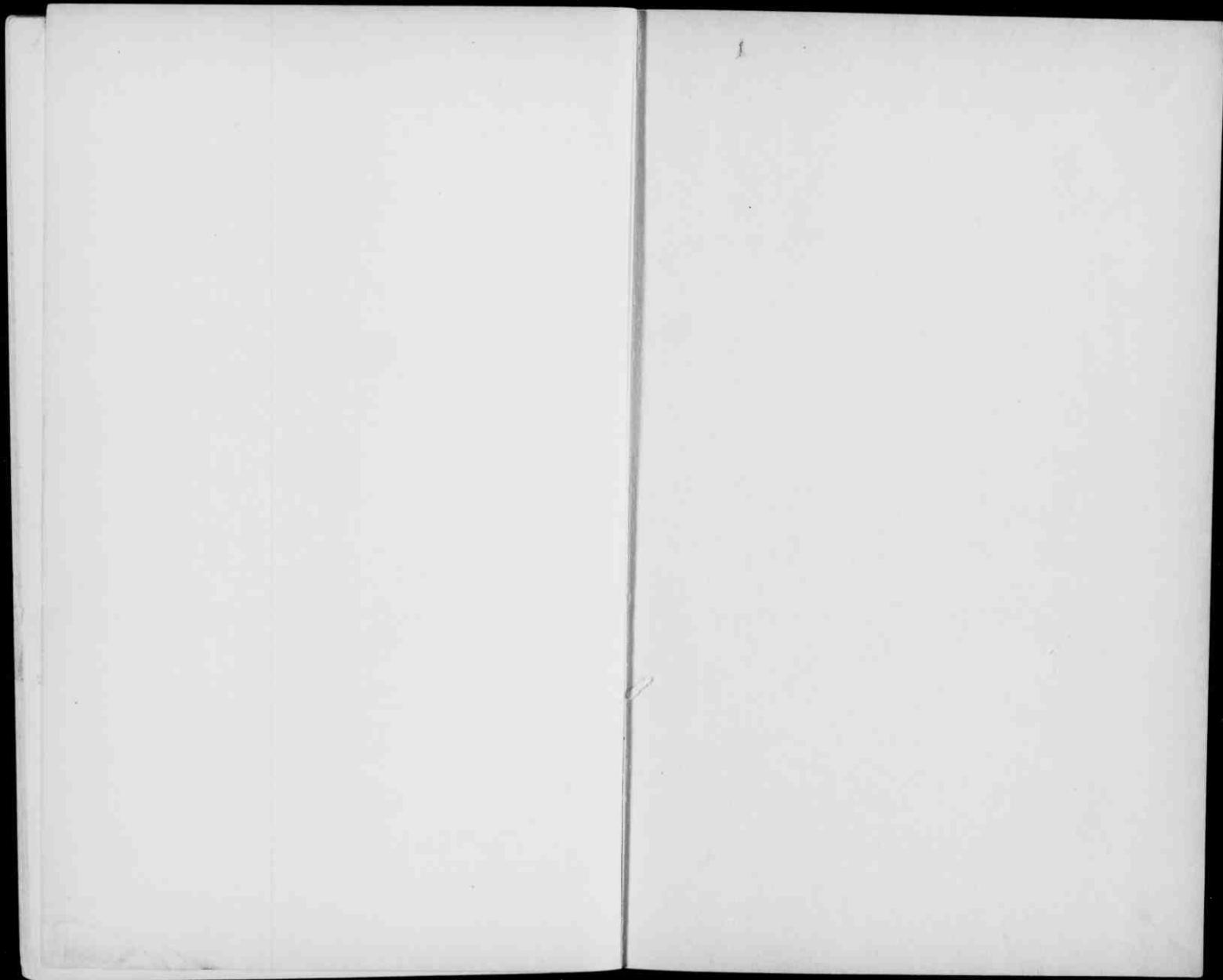
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